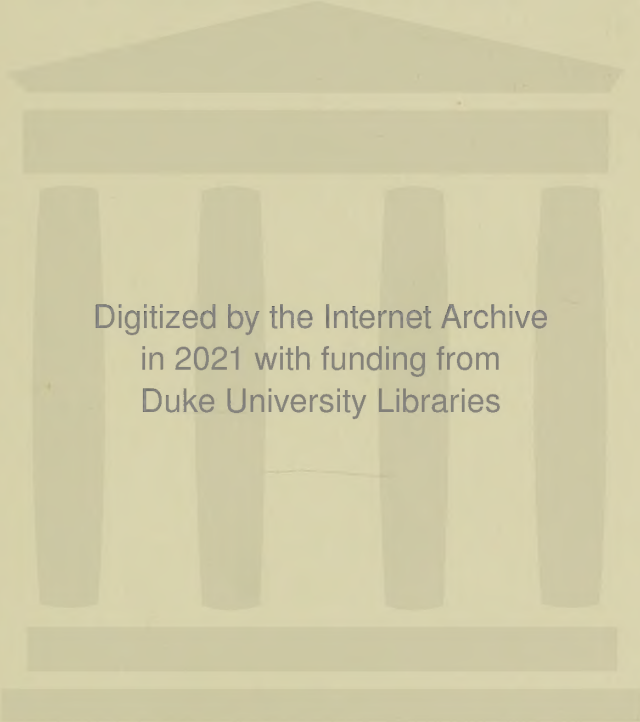


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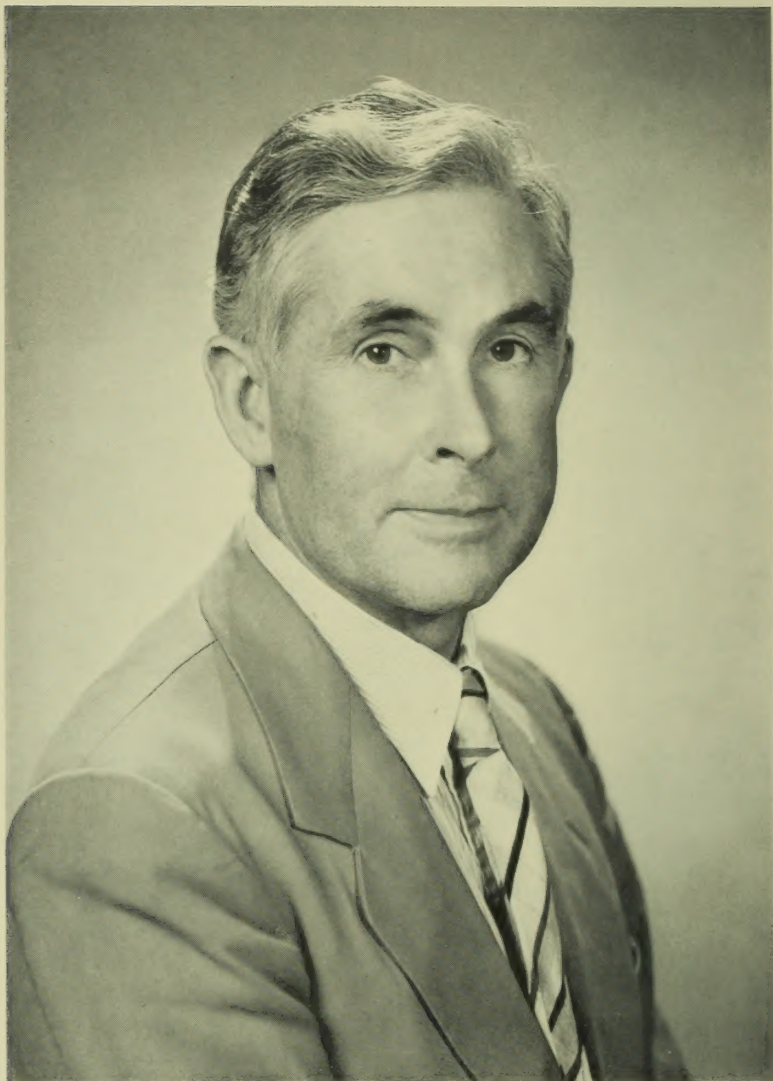
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STUDIES IN ECONOMICS
AND ECONOMIC HISTORY



PROFESSOR H. M. ROBERTSON

STUDIES IN ECONOMICS AND ECONOMIC HISTORY

Essays in honour of
Professor H. M. ROBERTSON

edited by
MARCELLE KOOY

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Foreword

IT is a pleasure to be associated with the publication of this volume, and with the tribute it brings to Professor H. M. Robertson.

To have held a distinguished chair for twenty years is something to be proud of, and to have served a fine university for no less than forty is a great record. We of the University of Cape Town are very grateful to Professor Robertson for all this. But we wish, I think, to commemorate more than just his service; for his high reputation as an economist and an academician extends far beyond South Africa, and has contributed much to the standing of our university.

Even this is not all. More important still, Professor Robertson has given the university and the community a splendid example of personal and academic integrity. His pertinacity in the pursuit of truth and justice has been outstanding, and he has always done his friends the kindness of clothing his strong moral convictions in humour and humility. He has neither deserted his principles, nor ever been pompous in maintaining them.

May this book do something to remind us all and our successors of the high standards he has set.

H. F. OPPENHEIMER

Editor's Preface

AN economic historian and economist of distinction, Professor H. M. Robertson has held a special place not only at the University of Cape Town, where he was Jagger Professor of Economics for twenty years, but in academic circles all over the world.

It is appropriate that, on the occasion of his retirement, scholars from three continents should wish to co-operate in publishing a collection of essays in his honour.

In these days of narrow specialisations, Professor Robertson is an expert in many fields and one who has never lost his view of the whole landscape of scholarship; he still retains something of the Renaissance ideal of the 'complete man'.

H. M. Robertson has achieved such renown as an economic historian and as an exponent of the history of economic thought that one tends to forget that his brilliant academic career began in economics and political science at Leeds University, where he graduated with First Class Honours and where he took the M.A. by thesis, for which he was awarded the Vaughan Fellowship.

His interest in economic history developed at Cambridge, where, after two years as a research student at Emmanuel College, he was awarded the degree of Ph.D. It is significant that he should have chosen a topic – the rise of economic individualism – which required considerable courage, particularly in so young a man, in challenging the established theories on the subject, and considerable acuteness. He presented so persuasive an argument that this book has remained one of the most authoritative on the subject.

Since then, Professor Robertson has brought the same courage, integrity and persuasiveness to all his work; his range of specialisations has grown to include South African economic problems and economic history.

After a short period at the Soziale Arbeitsgemeinschaft in Berlin, Professor Robertson came to South Africa in 1930 and

joined the staff of the University of Cape Town as Senior Lecturer in the Department of Economics, and was elected to its Chair in 1950. He has interested himself deeply in his adopted country and its economic development, on which he is now an acknowledged authority.

He found a whole new field of research in early South African history and made brilliant use of the available archival material; his authoritativeness in this subject too was soon established and his very many publications form a solid core of information and comment on the development of a complex community with particular economic problems.

H. M. Robertson's interest in South Africa, however, has been more than just academic. He saw active service during the war as a lieutenant in the 10th Light A.A. Battery. He has been a Trustee of the Public Library and a member of the Archives Commission; and is still Joint Editor of the *South African Journal of Economics*. If Professor Robertson was quick to interest himself in the affairs of his country, South Africa was not slow to recognise his particular merit. In 1947-8, at the request of the Union Government, he was seconded to the Union War Histories' Section of the Prime Minister's Office in order to organise the preparation of an official history of the war. He was, moreover, South African delegate to the (unofficial) discussion on European economic integration (London-Brussels-Paris) in 1951 and to the sixth (unofficial) Commonwealth Conference in Palmerston North, New Zealand, in 1959.

In spite of the extent and variety of Professor Robertson's research and his many commitments outside the university, he has never abandoned the strong belief that an important – perhaps the most important – task of a professor is to teach. Although he carried an almost impossible lecturing load as well as the usual heavy burden of administrative duties, he nevertheless remained one of the most accessible and sympathetic members of staff the students ever had. He was very distinguished; but he was never unapproachable.

As Chairman of the University's Academic Freedom Committee, he is a strong and persistent fighter in the cause of academic freedom. His qualities of honesty and fearlessness earned him the respect not only of his followers but also of his opponents.

The university has expressed its appreciation of these qualities and of his outstanding scholarship by asking him to write the history of the university since its inception fifty years ago.

Many people have helped me in the preparation of this book: but in particular my thanks are due to Mrs Annette Thom, Secretary of the Department of Economics at Cape Town, Mr Philip Stohr and other colleagues in the department. Their assistance has been truly invaluable.

May 1971

MARCELLE KOOY

1 Aspects of Economic Development in South Africa

By Professor C. G. W. SCHUMANN

Director, Bureau for Economic Research, Stellenbosch

I. INTRODUCTION

IN 1923 I had the singular privilege to spend an evening with Professor Werner Sombart, author of the monumental work on *Modern Capitalism*, at his home in Berlin. In the course of our conversation he asked me what had been the main subject of study in the economics course which I had completed in Holland. 'The theory of value and price,' I replied. 'All very well,' he said, 'but for a comprehensive and balanced insight into the forces shaping the rise of modern capitalism or the growth of a particular economy, your studies must transcend the realm of pure theory and must encompass several related social sciences.' Thereby I caught a significant glimmer of the old 'Methodenstreit' between the Historical School and the neo-classical Vienna School of Böhm-Bawerk, von Wieser and others. Whether Sombart was justified in his methodological approach to the basic problem of economics, viz. to explain the growth of welfare, was at the occasion of secondary importance. To me the significance of the evening lay in the inspiring experience of gauging to some extent the breadth of vision and the deep insight of a man who had devoted so much thought and research into the essential characteristics of modern western society.

At the same time it was brought home to me how the same phenomenon or problem could be viewed from several angles and that each view could reveal a significant facet of the whole 'structure'. For is it not true that Sombart's stress on the 'Kapitalistischer Geist', that of Schumpeter on 'innovations', that of Bücher on the changing structure of production leading

up to modern industrial society and that of Hildebrandt stressing the significance of money and credit, confining myself to the older contributors before modern growth theory had entered a new phase, were but different viewpoints depending on the special bent or interest of the writer?

In the light of the above, it must be evident that when approaching the problem of economic development in South Africa in a short article, only certain significant aspects can be stressed. I intend concentrating on broad structural changes and economic fluctuations in the economy since 1806. It will appear that the treatment followed in the separate sections will not be entirely consistent, depending partly on the statistical material available for the three periods chosen.

II. THE PRE-UNION PERIOD¹

When comparing the structural growth pattern in South Africa during the previous century with that in most other areas, there is a significant difference which merits special attention. Whereas in most countries the economic advance has proceeded from the agricultural stage to the industrial stage, in South Africa a 'mineral stage' was introduced during the second half of the 19th century which had far-reaching effects on the rate of economic growth, on the emergence of a more 'capitalistic' structure, on the character of economic fluctuations as well as on social and political relationships.

In order to give a brief background indication of the economic advance and structural changes in the South African economy during the period 1806-1909, Table I has been prepared.

Although essential figures relating to the growth of the country's economic welfare as measured by the national income in money or real terms are not available, a few general conclusions may be drawn from the table. The rate of growth of the white population over the whole century compares very well with that of other colonial areas. This points to a comparatively rapid economic advance, especially after 1850, when the natural resources of the country, agricultural and mineral, were rapidly being opened up.

In how far the periods of comparatively rapid or slower advance coincided with a rising or falling trend in the price

Table I*

Economic indices for South Africa (annual averages), 1807-1909

	1807-9	1898-50	1868-70	1884-6	1907-9
European population ('000)	26.6	134.0	251	634	1276
Annual rate of increase (%)	—	2.8	4.2	3.6	3.5
Wholesale price index (Great Britain), 1913 = 100	203.3	89.8	113.9	85.1	89
Annual rate of change (%)	—	-2	+1.2	-1.8	+0.2
<i>Foreign trade</i>					
Net imports (£'000)	45.4	970.1	2244.8	5723.7	25,531.4
Annual rate of increase (%)	—	7.9	4.5	6.0	6.7
Net exports (£'000)	31.8	374.3	2495.6	7201.3	47,812.3
Annual rate of increase (%)	—	—	10	6.9	8.6
Exports of food and drink (£'000)	—	72.4	127.9	105.5	571.1
Annual rate of increase (%)	—	—	2.9	-1.2	7.6
Exports of raw materials (£'000)	—	271.6	2185.8	3609.5	7094.3
Annual rate of increase (%)	—	—	11.0	3.1	3.0
Export of diamonds (£'000)	—	—	59.5	2933.9	6713.4
Annual rate of increase (%)	—	—	—	27.6	3.6
Export of gold (£'000)	—	—	—	81.2	31,552.3
Annual rate of increase (%)	—	—	—	—	29.6
Revenue of four Provinces (£'000)	114†	262	827	4188	16,409
Annual rate of increase (%)	—	2.1	5.9	10.7	6.1
Total bank deposits in Cape Colony and Natal	—	—	2002	6730	14,082
Annual rate of increase (%)	—	—	—	7.9	3.3
Railway revenue in Cape Colony (£'000)	—	—	86.4	1017	3149.7
Annual rate of increase (%)	—	—	—	25.1	5.1

* Extracted from Table 12, pp. 100-1 in Schumann, *Structural Changes and Business Cycles in South Africa, 1806-1936* (London, 1938).

† Cape Revenue.

level, as has been contended by some writers,² cannot be established from the available statistics, although it is interesting to note that the slower population increase between 1808 and 1849 coincided with the long deflation period in England and the Continent after the Napoleonic Wars, while the more rapid

increase in population between 1849 and 1908 was accompanied by a comparatively stable price level. This agreement is, however, largely fortuitous, for the discovery of diamonds in 1870 and of gold in 1886 had little to do with movements in the general price level and was the main cause of the more rapid economic advance after 1870.

The more significant aspect of the total growth pattern actually lies in the structural transformation of the economy towards a more sophisticated capitalistic society. The changing structure of *production* is brought out very clearly from the nature of the country's exports. During the earlier period, the export of 'food and drink' (mainly fresh fruit) points to a comparatively intensive type of farming in the country districts of the Cape. Gradually, however, more extensive farming (the second phase in von Thunen's 'Growth cycles') grew in relative importance. In fact, the period 1850-69 may be called the 'wool period'. From the table it appears that between 1848-50 and 1868-70 the export of 'raw materials' increased by no less than 705%; of this total wool constituted 82% for the latter date.

But now the mineral period is introduced. Whereas for 1868-1870 the export of agricultural products comprised over 90% of total net exports, for 1884-6 and for 1907-9 this percentage had fallen to 52% and 16% respectively, while diamond exports had risen to 41% for 1884-6 and declined to 14% for 1907-9. The latter decline is due to the fact that gold exports had increased from just over 1% to no less than 66% over the same period. The South African economy had become 'export orientated', not because of advanced industrial development, as happened in the more mature European countries, but because our natural resources or the 'bounties of nature' had made such a development inevitable. In fact, for the period 1907-9 the three 'export products', gold, diamonds and wool, accounted for no less than 88% of total net exports. This also explains why net imports could rise from £2,245,000 for 1868-70 to £25,531,000 for 1907-9, or by over 1000%. The people of South Africa had clearly become less 'self-supporting' during this period, for the value of imports per head of the European population had increased from £8.9 to £110. In 'real' terms this rise would be even more pronounced, since the British wholesale price level had decreased by nearly 20% during the same period. Although

the relevant figures relating to real National Product are evidently not available for this early period, it may be assumed that its growth rate was not nearly as high as that for 'real' imports. This process towards less self-sufficiency may have been noticeable in other 'colonial' countries, but it was probably more pronounced in South Africa owing to the high percentage of its 'export products' in the production set-up.

As a side issue, it would have been interesting to know more about the 'invisible items' in the country's balance of payments, especially with regard to capital flow. The exceptionally favourable 'trade balance' of £22,281,000 for 1907-9, for example, had to be counter-balanced by a net outflow of capital or payment for interest, dividends or other services. In contrast, the favourable trade balance for 1848-50 points to a marked net capital inflow.

The increasing 'sophistication' of the national economy is also apparent from the rapid increase in state revenue, the growth of bank deposits and of railway revenue. Behind this lies the whole history of early banking, notably in the Cape, the appearance of the first railway in 1860 and its rapid extension to Kimberley and the Rand and the increasing supply of public services, including the maintenance of law and order, education, health services, etc., on which an extensive literature is available.³

A short note on economic fluctuations during this century may be added here.⁴ It has often been stated that the nature of the business cycle is a function of the economic organisation in which it takes place. Thus business cycle theories have stressed the roundabout or capitalistic system of production, the elasticity of the monetary supply, the individualistic system of production and the psychological factor, etc., while exogenous factors, such as wars, good or bad crops, currency devaluation, etc., may affect the course, intensity and duration of specific cycles. The impact of these factors can be clearly traced in the cyclic history of South Africa.

The crises before 1860 may be expected to have some resemblance to the pre-capitalistic speculative crises of the 17th and 18th century in Europe, such as the South Sea Bubble of 1720. This is only partly true. The only 'typical' speculative crisis was the well-known Copper Crisis of 1854. This also partly holds for the Diamond Crisis of 1881 and the Gold Crisis

of 1889-90, but they had become culmination points of business cycles in the more modern sense; the latter had become 'organic' in character and had affected the whole of the South African economy. In the earlier period agricultural crops had had a relatively more important impact, but at the same time there was also a very noticeable influence of fluctuating economic conditions overseas, and especially in England, on cycles in South Africa. Thus, external factors had a marked influence on the character, timing and intensity of home cycles. Finally, the Anglo-Boer War resulted in a typical post-war depression, lasting from 1903 to 1909, in spite of boom conditions overseas, and specially in the U.S.A., up to 1907. The ensuing depression did intensify and prolong the depression in South Africa. Finally it may be mentioned that whereas diamond mining was highly sensitive to cyclic fluctuations in overseas demand and thus had an intensifying effect on local cycles, the gold mining industry had a stabilising effect in so far as the price remained constant up to 1910 and later, while decreasing 'depression' costs tended to stimulate production and thus total income from gold sales. This factor, however, became much more important during the Union Period after 1910.

III. THE PERIOD 1910-45

This period is significant, seen from the point of view of economic growth, structural changes and business cycles, in so far as it includes two world wars and the Great Depression of 1929-33 and in so far as the agricultural-mineral stage of development was rapidly being transformed into an agricultural-mineral-industrial stage.

Before 1910 figures relating to National Income were not available in South Africa. Since then it is possible to present a more complete picture of the economic development of the country. In Table II the years represented have been so chosen as to give an indication of the rate of growth of geographical income, of cyclical fluctuations and of variations in the value of money as reflected in the retail price index. Population growth has been added as well as the comparative contribution to the National Income of the more important production sectors.

Starting with population growth, it must be noted that popu-

Table II*

Population, geographical income and its division and retail price index for selected years, 1911-12 to 1945-6

Year	Population†			Geographical income‡			Percentage contribution of main economic sectors to National Income				
	'000	Average annual rate of growth		At current prices	At 1938 price level	Retail price index §					
		Non-white (%)	White (%)				Average annual rate of growth 1938 = 100 (%)	Average annual rate of growth (%)	Agriculture, forestry and fishing	Manufacturing	Public authorities and other
1911-12	1250	4712	—	132.9	—	79.7	—	17.4	27.1	6.7	13.5
1917-18	1429	5229	1.8	167.9	4.0	103.0	4.3	20.2	20.7	9.8	15.8
1919-20	1476	5251	1.6	243.5	20.4	184.9	6.5	131.7	20.9	21.3	16.8
1921-2	1524	5433	1.6	182.7	—12.4	151.0	-8.6	121.0	21.0	15.2	13.4
1928-9	1741	6449	1.9	270.5	5.8	253.5	7.6	106.7	17.2	14.1	16.2
1931-2	1833	6884	1.7	217.1	-6.2	221.6	-3.8	98.0	13.3	18.1	11.9
1937-8	2041	7761	1.7	372.4	9.4	379.2	9.3	98.2	11.5	19.7	13.9
1941-2	2197	8339	1.9	534.8	9.5	474.5	5.8	112.7	11.6	18.9	13.8
1945-6	2342	8923	1.6	704.2	7.1	529.0	2.8	133.1	11.7	13.5	16.1

* Basic figures obtained from *Union Statistics for Fifty Years* (Bureau of Census and Statistics).

† Population for 1911-12 taken as that for 30 June 1911 and similarly for the other years.

‡ For years ending 30 June 1912, 1918, etc.

§ For 1911-12 the average for 1911 and 1912 was taken and similarly for subsequent years.

lation censuses covering the whole population were held in 1911, 1921, 1936 and 1946, while those relating only to the white population were held in 1918, 1926, 1931 and 1941. For the intervening years the necessary figures were obtained through interpolation and making use of available vital statistics. Especially for the Bantu population, the figures cannot be considered highly reliable. The growth percentages pertaining to non-whites must therefore be accepted with some reserve. It may, however, be accepted that the non-white population grew at a somewhat faster rate over the whole period of thirty-four years than the white population. A study of net immigration figures for whites, available since 1924, indicates that this played a negligible role over the whole period, so that the growth was due almost exclusively to 'natural increase'. After 1946 the picture changes, as will be indicated in the next section. For non-whites the relevant figures, available since 1938, are also negligible, apart from the immigrant labour, mainly for the gold mines, from surrounding territories.

Looking at the other statistics in the table, it is significant that the pattern of economic development was greatly influenced by the extreme variations in the general price level. Compared with fluctuations in the value of money during the 19th century, this price instability is indeed remarkable.

In view of these price fluctuations it is advisable to draw attention first to the short-term economic fluctuations⁵ during this period and attend to longer-term growth and structural changes later on.

During the period 1911-12 to 1919-20 conditions were mainly dominated, especially after 1914, by war inflation. In fact, after the moderate boom of 1909-12, there was a slight recession from May 1912 to October 1914. The ensuing major boom of 1914-20, broken by minor recessions in 1916 and 1918, was mainly a result of price inflation. 'Real' income had thus shown practically no increase between 1911-12 and 1917-18. During the next two years 'real' income had, however, increased by the respectable rate of 6.5% per annum. The post-war recession of 1920-2 was due mainly to the international and South African price collapse.

At the same time this had a remarkably depressing effect on actual economic welfare and the decline of 8.6% per annum in

the 'real' National Income during these two years was much higher than the decline of 3·8% per annum during the Great Depression of 1929-32. The comparatively high growth rate (in real terms) of 7·6% per annum during the post-depression period of 1922-9 was accompanied and partly caused by an exceptional advance in secondary industry. Since 1924 a deliberate policy of 'protection' had been applied and this must have had a stimulating effect, while the war years, which had reduced competition from abroad, had also prepared the way for this advance.

The Great Depression had a smaller total effect on the South African economy as a whole than, for example, in the case of Australia, New Zealand or Brazil. The exports of these countries consisted mainly of agricultural products. As is well known, the depression affected the agricultural community much more severely than most other sectors. Between 1926 and 1933 the world price index for the more important agricultural products declined from 100 to about 35. The farmers of South Africa were as badly hit by this price collapse. At the same time the continued high exports of gold kept the country's balance of payments in a comparatively favourable position, so that South Africa was not forced to follow England when the £ Sterling was devalued on 21 September 1931. Later on it became a political issue, and this, fortified by a speculative export of capital in view of a possible depreciation, forced the government to depreciate the South African pound on 28 December 1932. In a short while parity with Sterling was reached. The effect on the South African economy was remarkable. While the retail price level showed practically no rise during the period 1931-2 to 1937-8, the 'real' National Income showed the exceptional increase of 9·3% per annum. This is the highest recorded during the whole post-Union period of 1910-69. There must have been special reasons for this economic expansion. The gold mining industry enjoyed an immense stimulation through the higher price for gold; this had a 'multiplier effect' on the rest of the economy. The resultant psychological impact on business expectations, the reversal in the flow of capital between South Africa and England, the investment stimulated by these two factors, the reduction of unemployment, the improvement in the 'terms of trade', in so far as export prices, especially of gold,

increased, while import prices remained comparatively stable and, finally, the rising prices of farm products and the assistance which would be rendered to the farming community through increased government revenue – all those factors combined to explain the above growth rate in ‘real’ production and income. Only through a very favourable set of circumstances could such results be obtained. Were this not the case, South Africa would have discovered a very simple device to increase total national welfare – viz. by depreciating its currency!

During the period 1937–8 to 1945–6 the pattern of economic development was largely dominated by the Second World War. Price inflation was again resumed, while total production was to some extent stimulated by increased foreign demand for domestic products as well as the ‘artificial’ protection of secondary industry. The rise of 5·8% and 2·8% per annum in real National Income for the two four-year periods between 1937–8 and 1945–6 respectively, is thus not surprising.

When looking at the ‘structure of national production’, as reflected in the percentage contribution of the main economic sectors to the National Income, the outstanding feature is the relative growth of secondary industry and to some extent of the tertiary sectors and the relative decline of the primary sectors. This, of course, is in accordance with the usual growth pattern of comparatively underdeveloped and even of more mature countries. At the same time it is interesting to note that relative price changes have also had a noteworthy effect on these percentages, especially during intervening periods, since the figures relate to production at current prices. Thus, for example, the decline in the contribution of agriculture between 1928–9 and 1931–2 was largely due to the price collapse of agricultural products, while the continued high figure for mining after 1931–2 must be ascribed to the increased price for gold after the depreciation of the currency. For individual years good or bad crops may, however, also have had a considerable effect on the contribution of agriculture.

Surveying the whole period, it is again significant to note the lack of correlation between changes in the price level and real economic welfare. Thus we find that during the two periods 1921–2 to 1928–9 and 1931–2 to 1937–8, when the price level showed a decline of 1·6% per annum and had remained stable

respectively, the highest growth rates of 7.6% and 9.3% in real income were recorded. Although there might be a tendency for such correlation to exist, based on logical economic reasoning, special circumstances may deflect such a tendency to a remarkable degree. This again shows that, for example, forecasting based on 'historical analogy'⁶ may at times be extremely misleading.

Thus far we have concentrated mainly on the short-term fluctuations, although reference to long-term growth and structural changes was made in passing. It remains to amplify the latter to some extent. The comparatively rapid growth of secondary industry, mentioned previously, may be further illustrated from the urbanisation and the occupational distribution of the population. Between the census years 1921 and 1946 the percentage of urban population increased as follows: for Whites from 59.6% to 78.4%, for Coloureds from 51.9% to 64.3%, for Asiatics from 60.4% to 77.5% and for the Bantu from 14.0% to 27.2%. The trend is obvious and agrees with internal immigration in most other countries. It should, however, be stated that 'urban' is defined to include even the smallest municipalities. When taking only the larger towns and cities as 'urban', the percentage of the so defined 'rural' population will be larger, but the trend towards urbanisation becomes even more pronounced.

The change in the occupational distribution of the population also points to a relative shift in the working population from the comparatively less productive agricultural occupations to secondary and tertiary industries. Over the same period of 1921 to 1946 the number of Whites occupied in agriculture decreased by 1.5%, while the number increased by 58.6% in mining, by 185.8% in manufacturing, by 128% in transport, by 88% in trade, finance, public administration and the professions. For Coloureds and Asiatics the trend is not quite as pronounced, while for the Bantu figures are not available.

The question may finally be asked in how far the rate of economic growth over longer or shorter periods was related to capital investment and whether there was a general tendency towards greater economic self-sufficiency. The relevant figures cannot be supplied here, but from an investigation previously undertaken⁷ it appears that an index depicting the percentage

of net investment to National Income (1938 = 100) points to exceptional variations (mainly cyclical) in this relationship. The 'capital output ratio' is certainly not nearly a 'constant', even allowing for a time lag, which could be used, e.g. for economic forecasting. Similarly, the ratio of imports to National Income (1938 = 100) shows wide variations with no clear tendency towards increasing 'economic independence'. These variations bear a close relationship to net imports or exports of capital and to cyclical prosperity and depression, while the comparative importance of 'export products', such as gold, diamonds and wool in the country's production set-up showed no long-term decline. This largely accounts for the continued large percentage of imports to total national demand or consumption. More attention to these two aspects of economic development will be given in the next section.

IV. THE PERIOD 1946-69

Taking an overall view of these twenty-four years, the main feature of the process of economic development appears to be a comparatively rapid and steady growth in the country's Gross Domestic Product at current prices as well as in real terms. Contrary to earlier experience, there was no sharp or prolonged post-war depression. Partly due to more purposeful anti-cyclical monetary and fiscal measures, both internationally and in South Africa, accompanied by a persistent interplay of 'demand pull' and 'cost push' inflationary tendencies, the retail price index showed a comparatively moderate but steady advance, even after a further devaluation of the currency in September 1949. Business cycles in most countries had become a good deal milder in character than during the previous fifty years or more. This may be a reason why the main interest in 'dynamic economics' had shifted from a study of crises and cycles to the problem of long-term economic growth.

These and other significant aspects of economic development can be represented and discussed more fully than for the period before 1946 owing to the fact that the available statistics have become much more comprehensive and reliable. This, however, also makes the choice of the most significant indices in the present short survey more difficult. In Table III I have selected

Table III

Aspects of economic development in South Africa, 1946-69

	1946	1950	1954	1958	1961	1965	1968	1969
<i>Population</i>								
Total	11,449	12,458	13,717	15,160	16,283	17,867	19,167	19,598
White	2380	2608	2744	2983	3117	3398	3639	3705
Non-White	9069	9850	10,632	12,177	13,166	14,469	15,528	15,893
Percentage - White to non-White	26.2	26.5	25.8	24.5	23.7	23.5	23.4	23.3
Retail price index, 1958 = 100	61.1	72.6	89.3	100.0	104.6	114.1	124.3	128.0
Average annual % increase	—	5.0	5.3	2.9	1.5	2.2	2.9	3.0
<i>Gross Domestic Product*</i>								
At market prices, R'000,000	1605	2481	3574	4375	5656	8075	10,392	11,635
Average % increase	—	11.5	9.5	5.2	8.9	9.3	8.4	12.0
At 1958 price level, R'000,000	2627	3417	4002	4375	5351	6911	8163	8768
Average % increase	—	6.8	4.0	2.3	6.9	6.6	5.4	7.4
Per head of total population, R.	229	274	292	288	329	387	423	447
Average % increase	—	4.6	1.6	-0.3	4.1	3.4	3.0	5.7
Gross Domestic Investment, Rm.	406	546	951	1094	1165	2340	2352	2899
% of G.D.P.	25.0	22.0	26.6	25.0	20.6	28.6	22.4	24.9
Gross Domestic Saving, Rm.	236	502	834	941	1368	2046	2442	2739
G.D.I. minus G.D.S.	170	44	117	153	-203	294	-90	160
Total merchandise imports, Rm.	433	612	889	1129	1022	1823	1930	2200
% of G.D.P.	27.0	24.7	24.9	25.8	18.1	22.6	18.8	18.9
Total merchandise exports, Rm.	156	436	667	774	931	1064	1495	1490
Net gold output, Rm.	203	294	329	440	576	775	769	847
Net capital inflow, Rm.	362†	98	205	161	-96	258	446	93
Total gold and foreign exchange reserves, 31 Decem- ber, Rm.	523	377	317	278	303	453	1100	1041
<i>Share price indices</i>								
1958 = 100								
Gold	146	135	121	100	108	144	143	135
Industrial and Commercial	—	120	105	100	94	247	380	463

* The figures for 1946-58 were taken from an article by Professor J. J. Stadler, 'The Gross Domestic Product of South Africa 1911-1959', in the *South African Journal of Economics*, vol. 31 (Sept. 1963), pp. 185-208. Those for 1961-9 were obtained from the publications of the South African Reserve Bank.

† Refers to 1947.

only a few series or 'growth indicators' and chosen the years so as to illustrate to some extent the economic fluctuations during this period.

Basic to an understanding of the South African socio-economic and political scene is the relationship between the different racial and language groups. From the table it appears that the non-White population increased at an appreciably higher rate than the Whites, but that since 1961 the proportion remained nearly constant. This was mainly due to an exceptional increase in net immigration into the Republic during recent years. During the six years 1956-61 the average annual net immigration amounted to only 2395, while during the next seven years 1962-8 the figure rose to 28,712.

The comparatively rapid economic growth during recent years has undoubtedly been greatly stimulated by this addition to the country's labour force, for an acute shortage of skilled workers has been the main bottleneck retarding a possibly even more rapid advance.

It may be interesting to note that, according to the latest available population census figures for 1960, of the 3,088,000 Whites the home language of about 58% was Afrikaans, of 37% English and of 5% both Afrikaans and English and other languages. The latter percentage may have grown appreciably during recent years owing to the immigration from many European countries.

The growing urbanisation and changing occupational distribution of the population, referred to in the previous section, continued unabated during the post-1946 period. Thus we find that over the period 1946-60 the percentage of urban to total population for the separate racial groups changed as follows: for Whites from 75.6% to 83.6%, for Coloureds from 62.5% to 68.3%, for Asiatics from 72.8% to 83.2% and for the Bantu from 29.3% to 31.8%. This also holds for the Afrikaans-speaking Whites; between 1936 and 1960 the relevant rural population actually decreased from 585,000 to 427,000 or by 158,000, while the urban population increased from 536,000 to 1,364,000 or by 828,000. The next 1970 census will probably show that this has continued during the past decade. It may well be that at present of the estimated total Afrikaans White population of 2,130,000 only about 14% may still be counted as 'rural' and

mainly engaged in agriculture. When analysing the occupational distribution of the two language groups it also appears that the Afrikaans-speaking population has recently remarkably increased in such production sectors as commerce, industry, finance and public service. This augurs well for the future in so far as it will encourage better understanding and co-operation between the two language groups. There are many evidences of such constructive efforts and this will probably increase in the future.

Turning now to the rest of the figures in Table III, the first feature that strikes one is the persistent but relatively moderate inflation during the whole period as compared to the exceptional price instability during the previous thirty-nine years. It is true that between 1911-12 and 1945-6 the average annual percentage increase in the retail price index was only 1.5% as compared to 3.2% for the period 1946-69, but the intermediate fluctuations were much more pronounced during the first period, mainly due to the two world wars and the Great Depression. For the eleven-year period 1958-69 the average rate of inflation was in fact only 2.2%. This compares very well with that in most Western countries. The various anti-inflationary measures,⁸ monetary and fiscal, adopted by the South African government were indeed remarkably successful.

The figures relating to Gross Domestic Product, especially when comparing the year 1961 with 1958,⁹ must be taken with some reserve. The official figures were repeatedly readjusted. On the whole, however, the broad trend can be taken as substantially correct. The average annual growth rate in 'real' G.D.P. for the whole period 1946-69 of 5.4% may be taken as very satisfactory when compared with that of most other Western countries, and also as compared to a figure of 4.2% relating to the real Geographical Income for the period 1917-18 to 1945-6.¹⁰ When taking intervening periods, it is significant that the growth rate during 1961-9 was a good deal higher than for the period 1946-58, viz. 6.3%, as compared to 4.3%. This also holds when comparing the 'real' income per head of the total population for the two periods. It must, however, be remembered that the year 1961 was one of comparative depression.

When analysing some of the other series in Table III, attention may be drawn to two significant relationships, already

mentioned in the previous section. The first refers to the relationship between investment and economic growth and the 'capital-output ratio'; the second to a possible tendency towards greater economic self-sufficiency.

From the table it appears that the percentage of Gross Domestic Investment to Gross Domestic Product showed comparatively wide fluctuations, the widest variation appearing from the depression low of 20.6% for 1961 to 28.6% for 1965. These variations should bear some relationships to the rate of growth in Gross Domestic Product in money and in 'real' terms, but the correlation between the two appears to be highly variable, even allowing for a possible time lag. The above percentage also appears to have some relationship to such an 'external' factor as the net inflow of capital (shown in the table), but here again the relationship is highly variable depending partly on the movement of other items in the Balance of Payments. This subject, however, requires much closer study and was fully analysed at an economic conference in 1965.¹¹

A quotation from the 'synopsis' of my article¹² seems apt at this stage: 'The analysis shows that the statistical determination of an even approximate "capital-output ratio" is most difficult when so many disturbing factors are incorporated in the actual course of events. Furthermore, a study of global or macro-economic variables should be considered as only a first step in a more satisfactory analysis of the above relationship. Totals or aggregates often hide very significant differences or variations in the components of such aggregates. The imperativeness of "disaggregation" is particularly stressed by Rostow in the above-mentioned summary.'

Coming to the second aspect referred to above, viz. a possible tendency towards greater economic self-sufficiency, the percentage of merchandise imports to Gross Domestic Product, as shown in the table, gives some indication¹³ of this trend. For the whole period 1946-69 there appears to be a declining tendency in this percentage, viz. from 27.0% for 1946 to 18.9% for 1969, but here again the year-to-year variations are most significant. The latter depend very much on fluctuations in imports, since Gross Domestic Product shows a more steady growth and, as is well known, imports are highly sensitive to prosperity and depression and to fluctuations in the net import of capital. At the

same time there is the unique characteristic of the South African economy, specially as related to the Balance of Payments, viz. that gold production forms a very substantial portion of total 'exports' (including the addition to gold and foreign exchange reserves). Had it not been for the fact that the 'net gold output' increased from R203,000,000 in 1946 to R847,000,000 in 1969, imports of merchandise would have been substantially lower and its percentage to Gross Domestic Product would have shown a much more marked decline.

There are two other aspects of 'economic self-sufficiency' which merit stressing. The first refers to the increasing dependence on 'imported labour'. To this reference has been made when discussing net immigration during recent years. The second refers to the country's dependence on foreign capital. It is interesting to note that South Africa has become increasingly self-sufficient as regards its capital requirements. In 1910, for example, total government debt amounted to R232,000,000, of which foreign debt constituted 92.1%. By 1945 the total had increased to R1080 million, mainly due to war expenditure, but now foreign debt had dwindled to only 3.4%.

For the period 1946-69 the figures relating to Gross Domestic Investment and Gross Domestic Saving have been included in Table III. Although the difference between the two measures the 'Balance on Current Account' and is thus closely connected with the variations in the constituents of the Balance of Payments, the relationship does give some indication of changes in 'capital self-sufficiency'. In 1946 only 58% of Gross Domestic Investment was financed from Gross Domestic Saving, while for 1958 the percentage had increased to 109%, in spite of a net inflow of capital of R446 million. This is explained by the comparatively low adverse 'Trade Balance' and the exceptional increase in the 'gold and foreign exchange reserves'. In spite of the very significant variations from year to year, it does appear that on the whole total investment has been financed from 'home savings' to an increasing extent during the past two decades. This should not be considered as an end in itself, for it may well be that future increases in net capital inflow may be a welcome indication of confidence in the economic future of the Republic and may be necessary to finance large development projects, including the infrastructure of the country.

Although scant attention has been given to fluctuations during the 1946-69 period, partly because these were relatively mild as compared to previous periods and because this would have required a more exhaustive analysis of year-to-year and even month-to-month variations in typical 'business cycle indices', it has been thought of interest to include some figures relating to share price movements on the Johannesburg Stock Exchange.

A study of these fluctuations, which is only partly reflected in the prices for the few years appearing in Table III, indicates that they showed a remarkable lack of correlation with growth and cyclic tendencies in the economy as a whole. Thus, whereas the growth rate in the Gross Domestic Product was comparatively high during the period 1946-54 and even up to 1961, the share market remained chronically depressed throughout the whole period. The decline began in 1948 after a sharp rise during previous years. Taking 1948 as basis, the *industrial* share price index declined to 77 in 1949, 56 in 1953 and 49 in 1961. In remarkable contrast to this decline, we find a comparative boom in the U.K. and U.S.A., specially during the later period. In the U.K. the industrial share price index increased from 100 in 1948 to 102 in 1953 and to 253 in 1961; for the U.S.A. the relevant indices were 100, 156 and 440 respectively. The share boom in South Africa after 1961 and especially during 1968 and up to May 1969 significantly outstripped those in the U.K. and the U.S.A., while the collapse thereafter was again relatively much more severe and was not accompanied or followed by a general economic recession. These tendencies are mentioned partly to indicate how the economic pattern has changed as compared to the inter-war period when, for example, the Harvard Business Barometer and the Berlin Institut für Konjunkturforschung found a significant correlation, with time lags, between movements in the field of 'speculation', 'business' and 'money'.¹⁴

There are several aspects of growth and structural change during the 1946-69 period which could have been further described and analysed. Thus the tendency towards further industrialisation, trends in the occupational distribution of the different language and racial groups classified according to broad geographical areas, the changing dualistic character of the total economy, the socio-economic policy underlying these

trends, the special significance of state and semi-state enterprises and of increasing public control within the general framework of free enterprise, the impact of foreign attitudes and policies on South Africa, are extremely significant facets of the whole picture, but a choice had to be made between all these aspects of growth. In the following section, relating to prospects for the future, some of the basic determinants of the economic development of the Republic will be shortly touched upon.

V. THE FUTURE

It has become fashionable in South Africa, as in many other countries, to set up targets or to make forecasts of economic growth for shorter or longer periods. The most authoritative and illuminating work in this respect has been done under the auspices of the Department of Planning. In the latest Economic Development Plan, 1968-73, the full economic implications of three assumed 'growth targets' of 5%, 5½% and 6% per annum in the Gross Domestic Product is worked out in detail. This may serve as a useful policy guide not only to the Central Government, but also to individual industries and firms in the private sector. An average growth rate of 5½% per annum over the five-year period is taken as the most rational target which will ensure balanced growth, taking into account the available human, natural and financial resources of the country.

This is however necessarily based on several assumptions, the most important being that an average net immigration of 30,000 per annum is reached. Compared to a figure of 28,712 per annum for the period 1962-8, this seems not unattainable. According to the calculations made, the supply of white labour will increase from 1,355,000 in 1968 to 1,537,000 in 1973 and of non-white from 5,450,000 to 6,128,000, while the respective demands will increase from 1,350,000 to 1,540,000 and from 5,252,000 to 5,945,000. This means that with regard to the white labour force supply and demand will approximately balance, while for non-whites the surplus will decrease slightly from 198,000 in 1968 to 183,000 in 1973. As a percentage of the available labour force, the latter can be considered as relatively negligible. Behind these figures lies the assumption that the total labour pattern as between Whites and non-Whites will be

practically maintained. Whether this can be maintained in the long run will depend primarily on the future rate of growth of the economy and the ability of South Africa to attract sufficient foreign immigrants, especially skilled labour.

'Balanced growth' is also postulated in so far as the Gross Domestic Product, which is assumed to increase from R10,040 in 1968 to R13,120 million in 1973, will approximately equal total expenditure, so that the necessary capital formation can be financed from domestic saving. With regard to the Balance of Payments it is assumed that, in view of the expected relative stability of gold production (R780 million for 1968 and R800 million for 1973), of an expected increase of R300 million in merchandise imports and in net payments for services (expected increase R90 million), exports of merchandise will have to increase from R1420 million to R1850 million or by R430 million. This seems attainable in view of concentrated efforts which are being made to encourage the export of agricultural and industrial products and the possible expansion of mineral production other than gold. An interesting and significant aspect of the assumed growth rate of $5\frac{1}{2}\%$ is that, flowing from a careful analysis of potential sectoral developments, the production of secondary industry will have to grow at an average 'real' rate of 6.8%. The 'process of industrialisation', mentioned in previous sectors, will therefore have to continue in order to ensure a sound and balanced total economic development.

It may be asked whether this 'target' is realistic and attainable. The answer evidently rests on the assumptions made and the implicit implication that major socio-economic or political disturbances are not of such a nature as to invalidate those assumptions. Significant is the fact that the actual growth rate for the period 1963-7, to which the first Economic Programme referred, was a good deal higher than the target of $5\frac{1}{2}\%$. This was more than maintained for the two years 1968-9. It was made possible by a comparatively high net inflow of foreign capital and an appreciable improvement in total production per unit of labour. Whether the growth rate of $5\frac{1}{2}\%$ or even higher can be maintained during the seventies would require very careful analysis. On this subject an interesting and stimulating study was recently made by two American economists¹⁵

covering the period 1969 to 1980. The 'reasonableness' or possible correctness of such projections, as of all growth models, depends essentially on the validity of the assumptions made as well as of the economic logic applied as manifested in the assumed quantitative inter-dependence of many variables, endogenous and exogenous, which have been incorporated in the model. In this case, some essentially valid criticisms, especially with regard to the assumed variables, were made by T. A. du Plessis and R. D. F. Strydom.¹⁶

It lies outside the scope of this paper to evaluate the probable correctness of the projections or of the 'comment', but it might be informative to give an indication of the growth potential of the South African economy as arrived at by the two authors. Between 1969 and 1980 the 'real' Gross National Product is expected to increase from R7764 million in 1969 to R13,908 million in 1980, or by an average of 5.4% per annum. With an assumed population increase from 20,438,000 in 1969 to 27,761,000 in 1980, the per capita income will increase from R379.9 to R501.0 or by 2.5% per annum. At the same time the deficit on the Balance of Payments is expected to increase from R190.5 million in 1969 to R855.2 million in 1980. This clearly implies an 'imbalance' which, according to the authors, could be alleviated by foreign trade policy, including import restrictions, or by public fiscal policy, 'both of which would have a deleterious effect on the rate of growth of real per capita income'. In how far a net inflow of foreign capital could partially correct this imbalance and what its long-run effects would be was not indicated.

With regard to the labour position, it is stated that 'to the extent that additional Bantu income is generated by their learning new skills and being able to fill vacancies in the capitalised sector of the economy, part of the white labour problem could be alleviated'. This evidently touches upon one of the main aspects of the growth problem for the future and of the socio-economic policy to be pursued.

When reviewing the total welfare of the people of South Africa, its past growth as well as its future prospects, it is perhaps well to recall the truism that the future of an individual, a group or a nation is finally dependent on its own resources and inherent strength, material, mental and spiritual (*Eigenwelt*), as

well as on the external or exogenous factors (Umwelt) which may affect its life and growth.

Looking back, it is indeed significant that in 1806 the European population in the Cape was only about 27,000, while the non-white population could hardly have been more than half a million. The agricultural and rich mineral resources had been lying dormant for many ages. As in the case of the U.S.A., Canada and Australia, these resources were developed mainly through the superior knowledge, inventiveness and constructive work of the new immigrants. But in contrast to these 'colonies', the indigenous population in South Africa had increased enormously and has introduced a problem of political and economic confrontation and possible co-operation which is unique.

Under present circumstances the basic problem for the future is whether the 'Umwelt' will allow South Africa to pursue its own chosen course of economic and social development. If we could assume a reasonable degree of non-interference in the country's affairs during the next three decades, I am convinced that the present and quite remarkable state of comparative social and political stability and the maintenance of law and order, which is the *sine qua non* for sound economic growth, can be maintained. With the available natural, human and capital resources, augmented by the necessary skilled labour, capital and know-how from abroad, the rate of economic growth of the past two decades can probably be maintained.

At the same time it should be realised that with the gradual decline in gold production, even assuming a future increase in the price of gold through the demand for non-monetary gold outstripping the supply, it is probable that our economic future will depend relatively more on our own 'efforts and sacrifices' (Marshall) and less on the 'bounties of nature'. Seen from this angle, one of the main problems of the Western world, viz. the continuous clamouring for higher wages and shorter working hours with the accompanying 'cost-push inflation', may become relatively more dangerous in this country with a view to balancing our international budget.

Similarly, with the comparative decline in the amount and value of our 'export products', such as gold, diamonds and wool and even allowing for enhanced exports of other minerals and

of manufactures, and in view of the growing needs and purchasing power of a rapidly increasing population, South Africa will inevitably become economically more 'self-sufficient'. Although there is little correlation between economic welfare and the degree of economic independence when, for example, comparing countries such as the U.S.A., Holland, Switzerland and India, and consequently no universal optimum degree of self-sufficiency, this inevitable trend in the case of South Africa should be welcomed in view of the uncertainty and instability in international economic and political affairs.

Furthermore, the future of a country and its people should not be measured only in economic terms. Even with regard to the more circumscribed subject of the relationship between investment and economic growth, on which a very illuminating symposium was held in the U.S.A. some years ago, Rostow¹⁷ summarises the overall opinion as follows: 'More than that, we all appear to believe that an understanding of the relationship between capital formation and economic growth demands that somehow, at some stage of our analysis, we bring to bear on the relevant economic variables social, political and cultural forces which affect their net movement.' In how far such 'imponderables' could be quantitatively incorporated in a statistical growth model is open to question. At the same time it is clear that such variables have significance not only for explaining the past, but perhaps even more so for formulating a policy strategy with an eye to future development taken in its broadest sense to include economic, social, political and cultural aspects. In passing it may be added that in the affluent society the problem of increasing production becomes increasingly less significant than the problem of spending wisely so as to ensure the future physical and cultural well-being of its people.

Finally, the problem of an 'ordered society' in South Africa is somewhat similar, in miniature, to that of the world at large. Here we have the same relative decrease in numbers and increase in welfare of the 'haves' and the dangerous population explosion of the 'have-nots'. In South Africa there is perhaps a more concentrated and well-planned effort to decrease this dilemma as far as financial, educational and social benefits to the 'have-nots' are concerned than in the international field. At the same time we, in South Africa, perhaps more so than the

Western world, are in the midst of an ominous and revolutionary 'clash of creeds'. In his 'Industry and Trade' Marshall stated that the two most important forces in the history of mankind have been the economic and the religious. Whereas the Middle Ages (and in Ireland today) were dominated by religious controversies and crusades, the clash of creeds has assumed a completely new content with the rise of Communism during the 20th century. Whether the West can retain sufficient confidence in the justice and the relative superiority of its own institutions and way of life, or whether the new ideological, economic, political and military crusades of the recent past will lead to a completely new orientation in world affairs, only the future can tell. The future of South Africa is inevitably and intimately dependent on the outcome of this struggle. In our view of the future and the policy to be pursued, the possible impact of these forces can not be ignored.

NOTES

1. The short survey in this section is based primarily on the findings contained in my earlier publication *Structural Changes and Business Cycles in South Africa, 1806-1936* (London, 1938).
2. S. G. Wagemann, *Struktur und Rythmus der Weltwirtschaft* (Berlin 1931).
3. Mention may be made of the following: E. H. D. Arndt, *Banking and Currency Development in South Africa, 1652-1927* (Juta, Cape Town, 1928). M. H. de Kock, *Economic History of South Africa* (Juta, Cape Town, 1924). A. W. O. Bock, *The Foreign Trade of South Africa* (1928). C. W. G. Schumann, *Die Kredietmark in Suid-Afrika* (Rotterdam, 1928).
4. See my *Structural Changes and Business Cycles*, III and IV.
5. For an exhaustive statistical analysis of business cycles in South Africa during this period I can refer to a publication of J. C. du Plessis: *Economic Fluctuations in South Africa, 1910-1949* (Bureau for Economic Research, University of Stellenbosch). See also: C. G. W. Schumann and F. van den Bogaerde, *Economic Diagnosis and Business Forecasting, with Special Reference to South Africa* (Bureau for Economic Research, University of Stellenbosch, 1954), pp. 93-100 and especially Graphs II and III.
6. See C. G. W. Schumann and F. van den Bogaerde, *Economic Diagnosis and Business Forecasting*, p. 52.
7. *Economic Diagnosis and Business Forecasting*, Graph I, p. 79.
8. For a full review of these measures I can refer the reader to the various annual and quarterly reports of the South African Reserve Bank.

9. See footnote to Table III.
10. See Table II.
11. See The Conference Issue (Dec. 1965) of the *South African Journal of Economics* on the theme: 'Economic Growth and Investment in South Africa'.
12. 'Die Betekenis van Investerings in die Suid-Afrikaanse Volkshuishouding', p. 277, in the above journal.
13. This gives only an approximate indication of changing self-sufficiency, since G.D.P. includes goods and *services*, while imports refer only to merchandise.
14. It might be rewarding to bring a former study of the Bureau for Economic Research, University of Stellenbosch, up to date, viz. *Industrial and Commercial Share Price Indices in South Africa, 1948*, by C. G. W. Schumann and A. E. Scheurvogel.
15. D. M. Bailey and T. D. Hogan, 'Future Growth Patterns in South Africa', *South African Journal of Economics*, vol. 37 (Sept. 1969), no. 3. See also Stephen Enke, 'South African Growth: A Macro-economic analysis' and J. de V. Graaff, 'Alternative Models of South African Growth', *South African Journal of Economics* (March 1963).
16. 'Future Growth Patterns in South Africa' – Comment: *South African Journal of Economics* (Sept. 1969), pp. 252–9.
17. *Capital Formation and Economic Growth*, National Bureau for Economic Research (New York, 1955).

2 A Revisit with the Cape's Hottentot Ordinance of 1828

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DESPITE a respectable antiquity, South African historiography is exceedingly young in its contributions to itself and to the academic community at large. Many of the interpretations provided in the multi-volume works of South Africa's first generation of modern historians, writing at the beginning of the 20th century, have yet to be re-evaluated. Those scholars tended to write political history, and when they did give attention to economic problems, they concentrated upon their meaning for the European element. Economic interaction among peoples, however, would seem to be one of the most crucial forces influencing South African history. In an article published in the *South African Journal of Economics* in 1934, H. M. Robertson sought to describe this economic interaction, broadly defined as competitive and co-operative, and to urge a more probing examination of factors involved in the interaction.¹ Although subsequent works have done much to identify more fully these factors and to broaden the interests of the historian,² Robertson's emphasis on the ineffectiveness of colonial governments to limit contact and to control economic activities between Africans and Europeans would still seem to warrant further attention.

The first of the peoples of Southern Africa to be brought into an economic system with the Europeans were the Khoikhoi, who were chiefly known to the Dutch and later to the English as the Hottentots.³ In the familiar story that unfolded on many European frontiers, the Khoikhoi lost their lands, institutions and wealth as they became more involved in relationships with the Europeans. By the early years of the 19th century, if not before, these people formed a part of the Cape colony's economy,

serving largely as a labour force for the European graziers and farmers. In 1809 regulations were framed by the British authorities to define the position of the Khoikhoi in the Cape's economic and social system. In essence, the code of 1809 prescribed the conditions for labour contracts and limited the free movement of the Khoikhoi within the colony.

In 1828 an ordinance revised the conditions for the contracting of labour and nullified the restrictions on the personal freedoms of the Khoikhoi and other free people of colour. The law of 1828 which supposedly gave these people the same rights possessed by the Europeans generated much controversy among contemporaries then and historians since. It is the purpose of this essay to examine the controversy, to probe the intent of the code of 1828 and to ascertain the code's general effectiveness. It will be apparent in the thesis that emerges that the activity of the colonial government to regulate relations between Khoikhoi and Europeans was less than has been maintained; indeed, it is to be suggested that not only did the ordinance fall far short in its goals but that its passage in 1828 prevented the application of other approaches that might have been more productive in broadening and strengthening the Khoikhoi's place in the Cape. In brief, other, less formal processes were probably more important in determining the outcome of the economic interaction between Khoikhoi and European than were the declarations of government policy in 1828.

I

For some time after the Dutch settlement began in 1652, the Khoikhoi peoples could control the nature of their contact with the Europeans, but their prospects for any continued independent existence disappeared by the end of the 18th century.⁴ Those unwilling or incapable of serving as an unskilled labour force within the Cape colony's grazing and farming communities still found themselves becoming increasingly dependent upon those communities. The expansion of the Boers and the superiority of European technology, symbolised in the gun, determined when and where a pastoral economy could continue. To move beyond the fringe of the European frontier was merely to postpone an involvement. To join one of the

missionary stations, of which there were about thirty in 1828, was to accept a particular European overlordship.

Government returns at the beginning of the 19th century showed a population within the colony of about 20,000 Khoikhoi, compared with about 26,000 Europeans; those in the 1820s, after the colony had increased in size, about 30,000 Khoikhoi and 45,000 Europeans. The weakness of the government in its contact with the districts into which the colony had been divided and the scattered nature of the Khoikhoi left many uncounted. Miscegenation continued to limit the Khoikhoi's own numbers while producing, along with the contributions of other Africans, Europeans and slaves, the new peoples of colour, many of whom, such as the Griqua, were better able to escape for a time the forces of European control. Indeed, among the colonists and government officials, the term 'Hottentot' became a loose description applied to people of colour who resided among the farmers, at mission stations or upon lands within the colony.⁵

Although governments had shown some concern in influencing the nature of Khoikhoi-European contacts prior to the 19th century,⁶ the Caledon code of 1809 was the first comprehensive legislation that assumed a master-servant relationship was to exist between the two.⁷ Coming shortly after the British re-established their rule, it attempted to supervise and to legalise the contracting of labourers by the colonists and to control the free movement of the Khoikhoi within the colony. Contracts of a month's duration or more had to be recorded and properly filed with the field-cornet or landdros, the district officials of the government. Certificates of residency were to be obtained by all Khoikhoi who were legal residents of the various districts. In moving within the colony, they were expected to exhibit to the local authorities their certificates or passes obtained from employers and officials. Khoikhoi not under contract or possessing certificates of residency might be accused of vagrancy. Those found vagrant might be assigned to employers under proper contracts. The local authorities, especially the landdros and his court, were expected to police vagrancy, settle disputes over contracts and insure the vigorous enforcement of the provisions of the code.

Later decrees strengthened the code's strictures against va-

grancy by providing for the apprenticeship of children whose keep had been provided by the employer and for the assigning of orphaned and neglected children to colonists willing to provide for them.⁸ Certain administrative practices added to the code's intention of bringing the Khoikhoi into the service of the colonists. For example, it was maintained by the 1820s that Khoikhoi were not eligible to receive grants of land from the government, and that any person removing to a missionary institution had to obtain the permission of the district landdros.⁹

The 50th Ordinance of 1828 cancelled the legal and administrative restrictions that had been applied to the Khoikhoi and revised the contract system.¹⁰ The new law prohibited discriminatory legislation and action against these people, removed the threat of their being charged with vagrancy when not under contract and clarified their right to possess all forms of property. Oral contracts were limited to one month's duration; all written contracts to one year; and children were not to be apprenticed without the consent of their parents. Access to the colony's legal system was stressed, punishments were more limited and arrangements were made to keep the central government better informed of local demographic conditions.

Historians, in treating of the Khoikhoi in the 19th century, have tended to concentrate on these two legislative acts and their purported impact.¹¹ Of the two ordinances, that of 1828 seems to have generated the greater divergency among scholars. There is the assumption, however, among almost all writers that the ordinance of 1828 did indeed free the Khoikhoi as a labour force and secured for them a legal equality with the colonists. What this assumption meant or might have meant for the colonists and the European-based economy has received considerably more attention from the scholar than has the actual implementation of the ordinance and its impact on the Khoikhoi.

II

To a great extent, the differing interpretations among historians over the meaning of the ordinance of 1828 have continued to reflect the contemporary European opinion of the first half of the 19th century.¹² Then, three main schools of thought seemed

to have appeared: a 'settler' school that saw the ordinance as destructive for both the colonists and the Khoikhoi; a 'Philip' school, named after its leading advocate, who celebrated the freedom given to the Khoikhoi and proclaimed the ordinance a major success in improving the lot of these people; and the 'Stockenstrom' school, named after the originator of the ordinance, who saw the act as important but incomplete in bringing the Khoikhoi within the colony's societal structure.

For those who saw the Caledon code of 1809 as a highly desirable act that helped to insure a supply of labour for the colonists and ended the reluctance of Khoikhoi to work and to reside in one spot, the repeal of the pass regulations in 1828 brought havoc to the labour market, hurt the European farmers and increased vagrancy, drunkenness, idleness and crime among the Khoikhoi. The act was viewed as the product of meddling missionaries and naïve humanitarians who knew nothing about the Khoikhoi's 'uncivilised ways' and who cared little that the new freedom brought chaos to the colony and destruction to its recipients.

The two most influential historians at the beginning of the 20th century, George McCall Theal and G. E. Cory, gave an authenticity to the views of the settler school: 'The effect was something like giving a child of ten years of age the rights of a full-grown man.'¹³ 'Being now at perfect liberty, large numbers seem to have "squatted" near farms and, at time, to have congregated in the district towns and villages, where the temptation of cheap brandy, procurable by a little labour, further degraded them.'¹⁴ Both writers, although concerned with different ends in their writing,¹⁵ echoed the feelings of the 19th-century critics of the missionaries and of British administrative policies.¹⁶ The ordinance of 1828 freed the Khoikhoi from all legal restraints, thereby upsetting relations between master and servant and adding to the colony's economic burdens.

The Philip school has confronted the major arguments of the settler school in virtually the same way that the more vocal missionaries combated the opinions of the colonists in the 1820s and 1830s. Although William M. Macmillan's book, *The Cape Colour Question*, published in 1927,¹⁷ must be admired on many counts – he was the first trained historian to focus on the history

of race relations within South Africa¹⁸ – his almost exclusive reliance upon the papers and arguments of the missionaries of the London Missionary Society kept him from probing deeper into relations between Europeans and Khoikhoi. In a sense, Macmillan's treatment of the Khoikhoi and the ordinance of 1828 maintained the limitations set by Dr John Philip, superintendent of the L.M.S. in South Africa and probably the most controversial figure in the Cape from his arrival in 1819 until his death in 1851. Philip was a vigorous champion for what he considered to be the rights and needs of the Cape Coloured, but this is not to say that he was fully aware of what he was defending or condemning.

To the Philip school, the Caledon code was defective because it took away the liberty of the Khoikhoi to serve as a free labour force, led to mistreatment and was not accompanied by legislation to improve the welfare of the Khoikhoi. A sequence of events, in which Dr Philip served as a prime mover, led to the 50th ordinance, which emancipated the Khoikhoi and allowed them to improve themselves. Thereafter, the missionaries used their influence to maintain the legal equality and freedom granted to the Khoikhoi. Complaints of vagrancy by colonists and others were exaggerated and but illustrative of the desire of some of the Europeans to reshackle the Khoikhoi.¹⁹ Pride was taken in the point that when a new master and servant act replaced the ordinance in 1841 it and all succeeding legislation affecting the Khoikhoi was 'colour-blind'. Thus, both the activities of the missionaries and the legislation of 1828 were instrumental in resolving the 'first Colour Question' in South African history.²⁰

Dr Philip, the London Missionary Society and leaders of the 'Saints' in Parliament must be credited with attempting to pressure London into taking more interest in the welfare of the Khoikhoi, but a Cape colonist was in fact the real author of the 50th ordinance. Andries Stockenström, rewarded with a baronetcy in 1840, was a frontier administrator who rose to a prominent position within the Cape's governmental system in the 1820s and 1830s.²¹ Often disagreeing with the opinions of both the missionaries and the colonists, Stockenström stood out as a highly individualistic thinker who tended to be a pragmatist in performing his duties.²² It was his observations and suggested

remedies for improving the status of the Khoikhoi and other free persons of colour that formed the basis of the ordinance of 1828; yet it is important to note, as have others, that not all of his ideas were accepted by the Cape governor.²³

Stockenström saw, as few others did, that the Caledon code of 1809 had begun a process of Europeanisation for the Khoikhoi that could not be reversed. Much more was involved than the stopping of vagrancy and the regulating of Khoikhoi labour: these people were being made a part of the colony's economic and social structure, and they were neither all alike nor all at the same stage in the process. He agreed with the missionaries that the blanket regulations of 1809 had a destructive and degrading element,²⁴ but what was needed was not merely the lifting of the old regulations. A more vigorous role on the part of government was required to help the Khoikhoi complete the process of Europeanisation and find a more productive and equitable place in Cape society.

Obviously, a majority of the Khoikhoi would continue to serve as a labour force for the colonists, but this service had an importance for the colony as well as for the farmers and graziers. The prevention of mistreatment and exploitation would make that labour more satisfactory for all concerned. For those who wanted to live as independent members of Cape society, the government should provide adequate opportunities as well as safeguards, and in his Kat River scheme of 1829 Stockenström showed how this might be done. Still, while providing better supervision for the process of Europeanisation and allowing for greater freedom and individuality, the government had a responsibility to maintain a certain minimum standard: 'I am as hostile to the emancipation of the Hottentots and all other classes *from all legal and moral restraints*, as I am anxious for their emancipation from bondage and oppression . . .'²⁵ The abuse of liberty and the committing of crime were to be suppressed.

Because he differed with later officials over frontier and military policies, stayed with unpopular ideas on occasion and rejected overtures by those wanting to claim him to their cause,²⁶ Stockenström's ideas were not readily appreciated by many of his contemporaries. From the standpoint of today, one would note a strain of paternalism in his philosophy and a

simplicity in his proposed solutions; yet his identification of what was happening to the Khoikhoi – this complex process of Europeanisation – may be used as the distinguishing feature of the third school of historians who have dealt with the 50th ordinance. These have accepted the importance of the law of 1828, but they have placed it within a broader context to show how the Khoikhoi and other peoples of colour became a part of the colony's society.

J. S. Marais's *The Cape Coloured People, 1652–1937*, which first appeared in 1939,²⁷ has formed the key work in the 'Stockenström' school. Although there is an affinity between his study and Macmillan's *Cape Colour Question* in that Marais followed many of the leads opened by Macmillan and also diligently retested the interpretations of the settler school, Marais concentrated more fully upon racial relationships.

The Caledon code was seen as an important step in giving the Khoikhoi a place (though an admittedly low one) within the colony's legal system, and the protection that the code gave prevented some of the destruction inherent in previous Khoikhoi–European relations.²⁸ The master and servant provisions of the ordinance of 1828 continued the basic economic relationships that had prevailed since 1809. But neither the 50th ordinance's labour regulations nor its other provisions could be given the interpretations provided by the settler and Philip schools. The results of the 50th ordinance were but 'partly good and partly evil'.²⁹

The opinion, therefore, which Dr Philip expressed in 1834, that 'ever since the publication of the 50th Ordinance the character and condition of the Hottentots have been rapidly improving,' errs on the side of optimism. Professor Macmillan's even more startling, if tentative, conclusion that 'more progress was made in less than twenty years than in nearly two centuries preceding' is based on decidedly flimsy evidence. No judgment on this issue is worthy of serious consideration unless its author takes into account both sides of the balance-sheet, weighing the examples of Hottentot progress against the evidence for Hottentot retrogression. Such a one will be obliged by the incompleteness of the evidence to return an open verdict.³⁰

Cautious in his own judgement and constantly aware that the relationships between European and 'non-European' could not be reduced to the simplistic condemnations or praises made by previous writers, Marais did much to clarify 'the Hottentot Question'. The historical process, witnessed by Stockenström, was unravelled, yet Marais's own assignment – a history covering almost 300 years – left little room for a lingering penetration of the 1820s and 1830s. Since the publication of his work, no new study has dealt exclusively with the Khoikhoi and people of colour in the 19th century.

A number of recent studies have helped, if but incidentally, to clarify certain points about the basic Khoikhoi-European relationships in the years under review. These works have sought to assess the government's frontier policy,³¹ to link the Cape's slave and 'Hottentot question' with reform movements elsewhere,³² or to explain the imperial climate in which problems stemming from race relations and the use of slaves were viewed by London.³³ Yet the basic implications of the Stockenström approach have yet to be fully acted upon: it would seem that we know far more about the 'Hottentot problem' for the colony than we know about the people concerned.³⁴ Even for the 'problem', however, all three schools placed heavy emphasis on how the 50th ordinance changed the status of the Khoikhoi.

III

Of prime importance to the 50th ordinance – and any ordinance seeking to change social conditions – was the willingness and the ability of the Cape government to translate the intentions of the ordinance into day-to-day policies. The terms of the ordinance required government to accept two major responsibilities: (1) to furnish an administrative structure and system of redress for regulating labour relations between Khoikhoi and European, and (2) to prohibit the continuation of official discriminatory treatment and to protect the legal equality awarded to the Khoikhoi. From 1828 until the ordinance was replaced in 1841 by a more general labour relations act, the Cape government considered the 50th ordinance the law of the land, but both the government's administrative system and its general indifference

to the implementation of the code severely checked the code's intent.

Of the twenty-five clauses in the code, twenty-two dealt specifically with the contracting of Khoikhoi labourers. These preserved the basic requirements of the Caledon code of 1809 and would not of their own have had an influence on wages or the existing economic relationships between servants and masters.³⁵ The modifications contained in the law of 1828 were designed to correct abuses involving the apprenticing of children and the claims of employers and to codify certain customs involving wages and compensation.³⁶ The important innovations were concerned with the length of contracts, the powers of local officials and the legal recourse for those with complaints stemming from the contract system.

In addition to maintaining the requirement of 1809 that contracts of more than one month in duration had to be in writing and registered with a government official,³⁷ the code stipulated that all new contracts were to be limited to one year's duration. Although earlier, field-cornets (unpaid burghers who performed chiefly police and military duties and who had the closest contact with the population)³⁸ and district landdrosts³⁹ were empowered to register contracts, the code of 1828 gave this power to two new officials, the justice of the peace and the clerk of the peace.⁴⁰ In practice, the justices of the peace, whose numbers were limited and whose other duties were quite small, did little in this field, and the clerk of the peace, for which there was one for each large district in the colony, was given primary responsibility for recording contracts and keeping a registry in his office. It was no doubt assumed in 1828 that both the justices of the peace and the clerks of the peace would be adequate replacements for the field-cornets and landdrosts, yet in fact the change in 1828 transferred to the district's capital virtually all business connected with the contracting of Khoikhoi servants. The field-cornets, who had been successful in enforcing the 'pass law', stopping 'vagrancy' and carrying out other provisions of the code of 1809, were left with few duties in regard to the 50th ordinance as a whole.

According to the code of 1809, the landdrost and field-cornet were empowered to decide disputes over wages and the terms of the labour contracts. Landdrosts only were capable of awarding

corporal punishment as well as fines to servants who failed to abide by their contracts or who were found guilty of misbehaviour. In 1828 the resident magistrate and the justice of the peace were to hear all cases concerning wages and contract violations, but although some justices of the peace were involved in some of these cases, the bulk of the load was placed upon the resident magistrates.⁴¹ As earlier, disputes over wages were considered civil cases, whereas misbehaviour and contract violations by the servant were considered criminal acts and were to be tried before the resident magistrate. However, the resident magistrate was prohibited from using corporal punishment, although he was allowed to levy fines and to imprison.⁴² As with the registering of contracts, the procedures for adjusting relations between employer and employee and obtaining legal redress were concentrated in the hands of the resident magistrate and the clerk of the peace in the district's capital.

It would seem logical that if the clerk of the peace and the resident magistrate were the major officials involved in the administration of the contract system, their records should tell us a great deal about how the Khoikhoi and the Europeans responded to the labour provisions of the 50th ordinance. However, the contrary would seem to be true. Since both of these officials were confined to a single town or village in the extensive districts – and neither was compelled to travel nor had assistants at the ward level – the administrative and judicial system was essentially inoperable. A less formal, unsupervised set of practices evolved at the local level, and although ample documentation is missing, it is apparent that labour relations between Khoikhoi and Europeans were not regulated by the 50th ordinance.

Although many writers have noted that with the removal of the 'pass law' in 1828 Khoikhoi servants preferred short-term contracts,⁴³ it should be stated that as long as contracts were kept on a month-to-month basis there was no need for employers and employees to frame written contracts and to have these endorsed by the government. Much trouble and expense was therefore saved by both parties, and a degree of flexibility and perhaps even power was preserved in negotiating short-term, oral agreements. Residents of mission stations had been in the habit of hiring themselves to neighbouring farmers on a daily or

seasonal basis, and the immediate payment of wages or compensation and the 'protection' available from the missionaries may well have enhanced this form of contracting for the Khoikhoi. By 1838 Governor Napier reported:

Servants are generally hired by the month and dislike any engagement for a longer period. This practice and feeling probably originated amongst the whites from the idea that labour was the portion of Slaves only, and amongst the Coloured classes, that by continued service they might thereby fall into a State of bondage . . .⁴⁴

Since government did not have a role in oral agreements, the legal safeguards and the intention of the 50th ordinance were not applicable. Although one governor recognised that lack of access to the government by the colonists was one of the reasons for the widespread use of oral contracts,⁴⁵ the Cape authorities did nothing to decrease the need for oral contracts or to make written contracts more desirable. Indeed, at no point did the governor or any official in the government even investigate the practice of oral contracts: how the 50th ordinance was administered was never the subject for internal review within the administration.

The importance of the oral contract in labour relations was such that when the 50th ordinance was modified in 1841 oral contracts of up to one year's duration were to be permitted.⁴⁶ According to the law of 1841, every contract permitted by the 50th ordinance could now be reduced to an oral agreement between employer and employee. Only long-term contracts, from one to three years in duration, were required to be put into writing and registered with the government. In a sense, the act of 1841 brought the law into line with the practices that had grown up under the 50th ordinance.

The factors contributing to the making of oral contracts under the 50th ordinance also influenced the government-sponsored system of redress. With virtually all judicial machinery being confined to the chief town in each district, the expense in time, money and energy in seeking government assistance might easily exceed the cost of the injury, complaint or injustice. Indeed, one court official declared in 1845: 'It is an undisputable

fact that most of the petty offences, thefts and other grievances between Master and Servant are never recorded owing to the difficulty of the aggrieved obtaining redress.⁴⁷ Another – a justice of the peace in the district of Beaufort – elaborated upon the results of the situation:

The residences of some of these parties are 350 miles from the chief town; many of them reside at 150 miles, and by far the greater number at from 70 to 100 miles distant: facts sufficient to account for the little business before the Circuit and Magistrates' Courts. Parties either submit to the evils such a state of things cannot fail to produce, or in cases of petty thefts, ill-conduct of servants, etc., they take the law into their own hands, and inflict such punishment, as they think fit. The persons thus illegally punished are prevented, for the same reason, from taking their complaints to the proper authorities, deterred also by the fear of being overtaken on the way, and again punished.⁴⁸

Complaints were frequently made that Khoikhoi servants abandoned their employers for little or no reason,⁴⁹ and there seems no doubt that vagrancy increased among the Khoikhoi after 1828.⁵⁰ Yet violations of contracts by servants would have been punished according to the terms of the 50th ordinance if recourse had been made to the courts. As it was, the resident magistrate courts carried but a light to moderate workload that remained fairly constant throughout the 1830s and 1840s despite increases in the colony's population.⁵¹ Theft, especially of livestock, was the most frequently reported crime, as one would expect in any frontier society of the 19th century, but virtually no attention was given in the courts to employer-employee relations.⁵² Although some elements in the colony campaigned throughout the 1830s for a vagrancy act to control the activities of the Khoikhoi,⁵³ few saw that a less spectacular but far more reaching administrative reform would have been that of sending clerks of the peace and resident magistrates on circuits throughout their districts to notarise contracts, explain the law, try wrongdoers and provide government with accurate information on the nature of Khoikhoi-European relations. Even the appointment of a few additional magistrates – which

was contemplated in 1845 – would have made some difference. As one justice of the peace put it:

The appointment of additional magistrates would render the law between master and servant of more effect and prevent in a great degree the latter from leaving their Service before the expiration of the agreed term of Servitude, which is now very frequently the case to the great hindrance and loss of the master and also tending to the encrease of vagrancy now very prevalent in the district.⁵⁴

For those Khoikhoi and Europeans who followed the labour requirements of the 50th ordinance or who sought government assistance in adjusting relationships, the benefits were of a questionable nature. The administrative system, primitive and parochial as it was, was burdened by lax practices, time delays and prejudicial attitudes on the part of some officials. Clerks of the peace were known to have ignored instructions to keep proper record books of Khoikhoi contracts⁵⁵ and to have refused or delayed the giving of service to Khoikhoi.⁵⁶ But even without intending to give poor service, the clerks of the peace often did by not keeping their offices open on a regular schedule:

It would be an important accommodation to the Country Farmers if six hours a day were positively office hours, viz from Nine to Twelve o'clock and from One to Four in the winter months and from Two to Five in the summer for all ordinary business. As Farmers coming from a great distance five minutes too late or even within office hours but the Clerks are gone, they are detained, losing not only the whole afternoon but also the half of the following day.⁵⁷

It was only by going through the office of clerk of the peace that a person had access to the resident magistrate and his court. The court, which was empowered to meet as often as twice weekly, served as a clearing house in that cases that exceeded the authority of the local court were kept for the next circuit of the Supreme Court. Yet from their creation in 1828 the resident magistrate courts were severely criticised for their lack of competent personnel⁵⁸ and their limited jurisdiction. Virtually any case involving theft, personal injury or violence had to be reserved for the circuit courts, which were held twice yearly.⁵⁹

Delays in getting justice, repeated visits to the court and heavy expenses for both government and individuals too often characterised the administration of justice. To illustrate, one Cape official in 1845 wrote:

For instance, a party is committed to prison for trial on a charge of theft by a Magistrate or Justice of the Peace who from the Evidence brought before him thinks there is sufficient cause for such a course. This happens when the District Circuit is just over. The Person if he cannot find sufficient Bail is obliged to remain in Gaol for Six months till another Circuit comes round and it may then happen that the trial is postponed for want of one single Evidence and he is consequently remanded for another six months and when tried found innocent, thus having suffered an imprisonment for 12 months, in other words an unmerited punishment. Then what an expence to the Crown has this case not occasioned, in summoning the witnesses three different times, first at the preliminary examination, second at the first circuit after committal, and third at the final trial, some of whom probably live at a distance of 20 hours on horseback from the circuit town. I have taken the above case not on a supposition of its occurring but as having witnessed similar instances.⁶⁰

For the Cape as a whole, the average detention in jail before trial of accused persons and witnesses in a circuit court was 105 days.⁶¹ And if the year 1838 can be considered typical, 93% of all persons committed to jail at all levels within the Cape judicial system were 'Black or Coloured Persons'.⁶²

The weaknesses in the Cape's judicial system influenced the effectiveness of all government ordinances, but for the Khoikhoi and the 50th ordinance an added weakness was found in the attitudes and policies of the Supreme Court. As noted earlier, to prohibit the continuation of official discriminatory treatment meant an acceptance within the government of the desirability of the ordinance and the establishment of an internal system for controlling the actions of the Cape's officials. For the administration in general, the years after 1828 were bleak as London waged campaign after campaign to cut expenses by trimming away offices and services, and no governor in the 1830s was adventuresome enough to experiment with new solutions to the

Cape's administrative problems. The internal policing of the government remained a most difficult and somewhat unrecognised goal. It was assumed that proclamations and ordinances published in the *Government Gazette* made their way into the respective offices and levels of government; seldom would a matter call for a subsequent reminder or series of correspondence. The 50th ordinance was published in this way, and at no point after 1828 were its terms re-emphasised to the government or to the public at large. But while the government might suffer from an inability to communicate with itself and with the colony,⁶³ one would expect the Supreme Court to show a vitality and an exactness in understanding the intent of colonial law. It is therefore surprising to note that in some respects the Supreme Court overlooked the meaning of the 50th ordinance and applied a dual standard of justice based largely upon race and culture.

The court, established in 1828 with a chief justice and three puisne judges, replaced the earlier Dutch institution and was to be free of all governmental influence. Its members, who were reduced by one in 1832, maintained both primary and review jurisdiction over the Cape's judicial system and counselled government on Cape law and the colony's constitutional relationship to Great Britain. The workload of the court, like that of the resident magistrate courts, remained fairly constant throughout the 1830s. Approximately 199 cases were handled each year on circuit, and an additional forty-nine were taken up in the chambers of the court in Cape Town.⁶⁴ The court, on the whole, worked well, but internal disputes and personality conflicts hampered the court's strength and leadership.⁶⁵ A clarity and a consistency in interpreting the law was subsequently not forthcoming.⁶⁶ After the departure in 1832 of W. W. Burton, who had framed the 50th ordinance, the Cape court remained basically conservative in its attitudes and judgments.

William Menzies was the most articulate and ambitious judge on the bench. The Scottish judge, who was accused by Burton of being 'both ignorant of, and prejudicial against English law',⁶⁷ forcefully argued that the best way to prevent crime was to increase the dread of punishment, even if this meant creating two sets of standards. In particular, Menzies urged in 1829 that

resident magistrates be given greater power to deal with non-Europeans. Finding on a recent circuit that in only one case out of fifty-four was a white charged with theft, Menzies concluded that resident magistrates, without the use of juries, should try all cases of cattle stealing and simple theft and that they be allowed to imprison those convicted for up to two years' hard labour.⁶⁸

His plan, he maintained, would stop crime, speed up the administration of justice and remove some of the inconveniences experienced by the Supreme Court when on circuit.⁶⁹ Yet the alteration in the judicial system was not to limit the rights of Europeans:

If it should be thought improper to expose any of His Majesty's *civilized* subjects in this colony to the risk of being tried, and punished, to the extent of two years imprisonment, without the intervention of a Jury, for the crime of unaggravated theft, this objection may easily be obviated, by confining the extended Jurisdiction . . . to cases where the persons accused are slaves or *free persons of colour* . . .⁷⁰

Although his proposal was not accepted by the governor, Menzies pursued his idea that the same punishments could not be used for all of the peoples in the colony:

The feelings, principles, and circumstances of the white and black population of this colony are so different, that while to the black the punishment of whipping is merely the receiving of so many lashes, and ceases as soon as the wounds are healed, to the white the punishment of whipping, in most instances, is considered as worse than imprisonment even for years, and tends to degrade the sufferer, not only in the opinion of others, but his own eyes, during the rest of his life.⁷¹

Imprisonment for the non-European had to be made as unattractive as possible, and Menzies urged that the treadmill be used in every prison.

While appreciating those efforts by some of the Khoikhoi to imitate European standards, as in the Kat River settlement,⁷² Menzies was convinced of the need to legislate acceptable

standards of behaviour. In 1834 he framed a vagrancy bill based upon the principle 'that it is expedient and possible by the fear of punishment to prevent persons, who have not wherewith honestly to maintain themselves, from *wilfully living in idleness* and to force them to betake themselves to honest industry. . . .'⁷³ The Menzies bill, which was far more stringent than that originally proposed by the Cape's attorney general,⁷⁴ accepted the premise that the 50th ordinance ought to be replaced, but the judge argued that only those who refused to find employment in the colony would run the risk of having their liberties curtailed. The bill echoed the Caledon code of 1809: Khoikhoi had to prove that they had an 'honest living' or face the threat of serving up to two months on the treadmill for vagrancy.⁷⁵ Although the bill never became law, Menzies helped to draft the master and servant ordinance of 1841, which, as indicated above, replaced the 50th ordinance and gave greater power to magistrates to deal with the 'immoralities' of servants.⁷⁶

The chief justice, Sir John Wylde, was less clear in expressing his philosophy in regard to the 50th ordinance. Wylde, who had served earlier as a judge in New South Wales, was not a distinguished student of law; his younger brother, who held a number of high offices before becoming lord chancellor of England in 1850, described him as better fitted for the stage than for the bench.⁷⁷ Still, the chief justice was to serve the Cape from 1828 until his retirement in 1856. In his decisions on specific cases, he revealed a position that differed little from Menzies's point that the courts needed to impose different standards of punishment on certain classes in society.⁷⁸

In a number of cases, Wylde felt the need to justify to the governor the severity of his punishments. For example, in a case involving three Cape Coloured who were charged with assault, Wylde sentenced each to be transported to New South Wales for five years, because 'the court felt it incumbent to denounce a Sentence which might make a strong Impression upon those Classes of our community, which seem so easily excited to cruelty of retaliation or revenge'.⁷⁹ Servants, chiefly Khoikhoi and Cape Coloured, who were convicted of stealing from their masters, were frequently given a sentence of transportation to New South Wales too, since Wylde felt 'the necessity of deterring as much as may be, *House Servants*, from whom it is scarcely

possible to protect the property they must have access to, from plunder'.⁸⁰

When three Malays were charged with rape in 1835, Wylde made no distinction in his punishments between the one who had raped the 'concubine' and the other two who had been at the scene: all three were sentenced to death,

as I have reason to believe, the Malay Class of our Inhabitaney, to which the Prisoners belong, are in their common natural Feeling less scrupulous of restraining those Inclinations, which led the Prisoners to the commission of their offence and, at the same time are less keenly sensible of the criminality either in the fact, or the legal consequences of the Deed.⁸¹

As an added deterrent, Wylde was tempted to add 'dissection after death' but did not, since this would not have been analogous to the current law of England.⁸²

When on circuit in 1839, the chief justice sentenced eight Khoikhoi and one Xhosa⁸³ to death for cattle stealing, 'to prevent further crime and curb the lawlessness and dissolute habits of a large body of the aborigines of this Colony . . .',⁸⁴ but the governor felt that Wylde had carried his concept too far. The nine were recommended to receive the mercy of the crown, but Wylde continued to disagree with the governor.⁸⁵

Although the third member of the court, George Kekewich, was evidently more pragmatic,⁸⁶ the Supreme Court as a whole was exceedingly reluctant to change its system or concepts.⁸⁷ Travelling through the colony twice yearly, the court was in a position to know conditions within the Cape better than any other branch of government, and indeed the court was expected to report its observations to the governor after the completion of each circuit. Yet the reports to the governor were often superficial and brought few problems to the attention of the administration.⁸⁸ Certainly the 50th ordinance, despite its intent to give legal equality to the Khoikhoi, received scant if not unfavourable consideration from the court.

For the Cape government as a whole, the terms of the 50th ordinance and the place of the Khoikhoi within the colony received a minimum of attention after 1828. Although the Kat River settlement was begun under Governor Cole and the more enthusiastic Stockenström in 1829, the plan to settle Khoikhoi

in small plots along part of the eastern frontier remained basically an undirected experiment.⁸⁹ After Stockenström's departure from the colony in 1833, interest in the project waned further, and later officials were openly opposed to the existence of such settlements.⁹⁰ Within the colony, one could hardly expect government assistance in helping Khoikhoi to obtain land,⁹¹ and the generally low economic strength of the Khoikhoi would restrict their participation in the Cape's economy. But regardless of the limited functions performed by the government for all segments of the population, there was little to show that the Cape government recognised the intentions of the 50th ordinance. Yet the passage of the ordinance in 1828 may well have prematurely nullified a more vigorous prosecution of measures by London to improve the lot of the Khoikhoi.

Had the Cape government refrained from passing the ordinance in 1828 or concentrated only on master and servant relations, it is altogether likely that London would have included the Khoikhoi in its policies to improve the economic, social and legal position of the slaves in the empire. These policies, while not necessarily free from a naïvety that simplified slaveholding economies, formed one of the overriding concerns of the Colonial Office from 1823 to the end of the 1830s. This concern at times overcame the lethargic quality of imperial rule and even the strictures against spending money.⁹² However, once the 50th ordinance was passed, there was the assumption in London that it had solved the 'Hottentot Question'. Not once throughout the period of active interest did the Colonial Office ask for a report on how the ordinance was working. Although it was suspicious of any attempt to repeal the ordinance or to modify its basic provisions,⁹³ London asked few questions about the Khoikhoi at a time when it was exceedingly sensitive to the treatment of aborigines and slaves in the empire.

Prior to 1828, the Khoikhoi and slave questions were somewhat united, but the Colonial Office moved slowly towards assuming a more vigorous role in the internal affairs of colonies. In 1823, the same year the Liverpool government met the demands of the Saints in Parliament by pledging to enforce an amelioration policy for the slaves in the empire, the commissioners of inquiry began their three-year investigation of the Cape colony. Although the commission had as one of its tasks

the reporting on the conditions of the Khoikhoi and San, it is apparent that neither the commission nor the Colonial Office expected this to be the first concern. No official report on the condition of the Khoikhoi had been received by London when it was asked to approve Bourke's 50th ordinance in late 1828. Indeed, despite repeated requests to the commission from 1828 onward,⁹⁴ the report was not received until the spring of 1830, and then the commission, which had long since left the Cape, assumed that the ordinance had corrected its major complaints.⁹⁵ The tardiness of the report and the brevity of its coverage further helped to endorse the view that the 50th ordinance was an effective solution.

It would appear that for the Khoikhoi and the colony as a whole the ineffectiveness of the ordinance was of more importance than its intended purpose. Although it did repeal the 'pass law' system of the Caledon code, the ordinance's actual impact upon certain areas in Khoikhoi-European relations and in the more general process of Europeanisation being undertaken by these people was far less than anticipated by the code's sponsors in 1828. Similarly, historians of the three schools who have placed the ordinance at the centre of their studies on race relations and the role of the Khoikhoi in the history of the Cape may have merely described the law and not its contributions to the historical process. For the Khoikhoi, the weaknesses in the colony's governmental system, the indifference or opposition of some officials and the absence of an active role by London in supporting the ordinance merely emphasised the tremendous importance of the informal processes that were influencing Khoikhoi-European relations. These, taking place at the local level, have yet to be made the subject of scholarly investigation.

NOTES

1. '150 Years of Economic Contact between Black and White: A Preliminary Survey', in two parts, II (1934), 403-25, and III (1935), 3-25. See also in the same journal his 'The Economic Development of the Cape under Van Riebeeck', in four parts, XIII (1945), 1-17, 75-90, 170-84 and 245-62; review of *Die Geskiedenis van die Skaapboerdery in Suid-Afrika*, by H. B. Thom, v (1937), 475-9; and review of *The Cape Coloured People, 1652-1937*, by J. S. Marais, VII (1939), 456-9.

2. For example, see C. W. de Kiewiet, *A History of South Africa: Social and Economic* (London, 1941). The most recent general history to break more completely with past confinements is *The Oxford History of South Africa*, ed. Monica Wilson and Leonard Thompson, 2 vols (New York, 1969-70). Economic interaction among African states prior to their incorporation within the European political and economic systems is one of the major concerns in *African Societies in Southern Africa*, ed. Leonard Thompson (London, 1969), which complements the *Oxford History* and suggests new fields for research.
 3. Because of its connotation, the term 'Hottentot' must be applied with caution by the historian. Khoikhoi is the indigenous name. However, in this essay I have accepted the European-coined term whenever it was used by contemporaries or later scholars. In my own comments, I have preferred to use the term Khoikhoi.
 4. An important new contribution on the Khoi in this period is Gerrit Harinck's 'Interaction between Xhosa and Khoi: emphasis on the period 1620-1750', in Thompson, *African Societies*, vii 145-69.
 5. Because of their hunting-based economy and location, the San (Bushmen) were usually treated as a separate group; however, other people of colour, sometimes dubbed 'Bastaards' and 'Blacks', were often considered to be 'Hottentots'. See 'Report of the Commissioners of Enquiry at the Cape of Good Hope on the Administration of Justice in that Colony', 6 Sept. 1826, enclosure in Bathurst to Bourke, dispatch no. 25, 5 Aug. 1827, G.H. 1/13 (Cape Archives). This report and others by the commission have been reprinted in *Records of the Cape Colony*, ed. George McCall Theal, 36 vols (Cape Town, 1897-1905).
- I have preferred to use the manuscript copies of the reports that were in the hands of the Cape government. The abbreviation 'Cape' will be placed after all references to material used in the Cape Town Archives; the abbreviation 'PRO' will be placed after all references to material used at the Public Record Office, London.
6. See Robertson, '150 Years of Economic Contact'; J. S. Marais, *The Cape Coloured People, 1652-1937* (London, 1939); P. J. van der Merwe, *Die Trekboer in die Geskiedenis van die Kaapkolonie (1657-1842)* (Cape Town, 1938); and M. Whiting Spilhaus, *South Africa in the Making, 1652-1806* (Cape Town, 1966).
 7. Caledon to Castlereagh, dispatch no. 74, 2 Nov. 1809, C.O. 48/5 (PRO). An abridgment of the proclamation can be found in *Select Constitutional Documents Illustrating South African History, 1795-1910*, ed. G. W. Eybers (London, 1918), pp. 17-18.
 8. For example, proclamations of 23 April 1812, 9 July 1819 and 23 May 1823.
 9. 'Report of John Thomas Bigge on Prisons', 15 Aug. 1825, G.H. 18/2 (Cape); J. S. Marais, *Cape Coloured People*, pp. 122-3 and 153-4; and L. C. Duly, *British Land Policy at the Cape, 1795-1844* (Durham, 1968), pp. 46-7.
 10. Cape Town *Government Gazette*, 25 July 1828, and G. W. Eybers, *Select Constitutional Documents*, pp. 26-8. The ordinance was addressed to the

Hottentots and other free Persons of colour'. In this essay I am basically concerned with those who were called 'Hottentots' by the government and colonists. When referring to these people as Khoikhoi I am aware that the term may not be entirely accurate. The broader term of 'Cape Coloured' was brought into use after the emancipation of the slaves.

11. The following are the most comprehensive bibliographies available: E. Jacobson, *The Cape Coloured: a bibliography* (Cape Town, 1945); G. Manuel, *The Coloured People: a bibliography arranged under specific subject headings* (Cape Town, 1943); and Department of Coloured Affairs, *Consolidated General Bibliography: the Coloured People of South Africa* (Cape Town, 1960). See also the more general but highly useful guide, *A Select Bibliography of South African History*, ed. C. F. J. Muller, F. A. van Jaarsveld and Theo van Wijk (Pretoria, 1966).
12. Space permits only a limited presentation of historians who have dealt with the period under review. For an excellent, provocative discussion of South African historians in general, see F. A. van Jaarsveld, *The Afrikaner's Interpretation of South African History* (Cape Town, 1964), pp. 116-65.
13. Theal, *History of South Africa in Five Volumes* (London, 1897-1904), III 430.
14. Cory, *The Rise of South Africa*, 4 vols (London, 1913), II 373.
15. Although neither was a trained historian (the Canadian-born Theal was in the civil service and the English-educated Cory taught chemistry at Rhodes University College), Theal had the better understanding of the discipline. Cory sought to record the achievements of the English in South Africa, whereas Theal attempted to write 'a South African' history. A recent writer has said, 'the extensive works of G. M. Theal, notwithstanding his strong bias and (in his *History of South Africa*) his failure to acknowledge his sources, are in one respect much more "modern" than many more recent writings on South African history: they say a great deal about Africans and much of what they say is based on oral traditions collected in the nineteenth century'. Thompson, *African Societies*, p. 4.
16. For example, John Centlivres Chase, *The Cape of Good Hope and the Eastern Province of Algoa Bay*, reprint of 1843 ed. (Cape Town, 1967), pp. 232-3; Henry Cloete, *Five Lectures on the Emigration of the Dutch Farmers from the Colony of the Cape of Good Hope* (Cape Town, 1856), pp. 32-4; E. H. D. E. Napier, *Past and Future Emigration; or, The Book of the Cape* (London, 1849), pp. 134 and 252; and A. Theodore Wirgman, *The History of the English Church and People in South Africa* (London, 1895), pp. 80-1.
17. Reprinted, with foreword by C. W. de Kiewiet, by C. Hurst and Co., London (1969).
18. See comments by De Kiewiet, *ibid.*, pp. v-viii; Van Jaarsveld, *The Afrikaner's Interpretation of South African History*, pp. 139-40; and Leonard M. Thompson, 'South Africa', in *The Historiography of the British Empire-Commonwealth*, ed. Robin W. Winks (Durham, 1966), pp. 213 and 223.
19. Examples of literature presenting the 'Philip school' in the 19th century would include: S. Bannister, *Humane Policy: or Justice to the Aborigines of*

New Settlements, reprint of 1830 ed. (London, 1968), pp. 11 and 186-96, and appendix 4, and Aborigines Protection Society, *Report of the Parliamentary Select Committee on Aboriginal Tribes (British Settlements)*, Reprinted, with Comments (London, 1837), pp. 30-6. Philip's major work, *Researches in South Africa*, 2 vols (London, 1828), appeared before the ordinance was issued, but it and the later House of Commons select committee reports on aborigines were extensively quoted by subsequent writers to show the status of the Khoikhoi in this period.

Theal said of Philip's work, 'For historical purposes, its only value is the exposition of the views of its author with regard to the colonists and the coloured races. Time has passed a decisive judgment against the correctness of those views. . . .' His comments on Bannister's *Humane Policy* were similar: 'What is original is of value only as showing the wild theories that could be held by men of education regarding the coloured people of South Africa. They are represented by Mr. Bannister as eager for improvement and struggling towards civilisation, while being oppressed and kept back by the Europeans.' Theal, *Catalogue of Books and Pamphlets relating to Africa*, reprint of 1912 ed. (Cape Town, 1963), pp. 18 and 234-5.

20. All of Macmillan's writings on the period carry this basic theme. In addition to *Cape Colour Question*, see *Bantu, Boer, and Briton: The Making of the South African Native Problem*, rev. and enlarged ed. (Oxford, 1963), p. 363; chapter x, 'Political Development, 1822-1834' and chapter xii 'The Problem of the Coloured People, 1792-1842', in Eric Walker, ed., *South Africa, Rhodesia and the High Commission Territories*, vol. viii in *The Cambridge History of the British Empire*, 1963 ed. (Cambridge, 1963), pp. 248-65 and 279-300; and *The Road to Self-Rule: A Study in Colonial Evolution* (London, 1959), pp. 95-118.

His emphasis on Dr Philip's role in the shaping of government policy and the ordinance's ability to 'free' the Khoikhoi has been accepted by many other writers, especially by those producing general histories (i.e. De Kiewiet, *A History of South Africa*, pp. 46-7). However, Macmillan says very little about the everyday working relationships between missionaries and the Khoikhoi. Despite other published studies and theses on aspects of the missionaries' role in Southern Africa, there remains the pressing need for comprehensive examinations of the missionaries as administrators and 'guardians' for those under their control.

21. His civil appointments included: landdrost of Graaff Reinet, 1815-28; commissioner-general for the eastern province of the Cape, 1828-33; and lieutenant-governor of the eastern districts, 1836-9. For an outline of his career as administrator, military officer, politician and critic, see *Dictionary of South African Biography*, ed. W. J. de Kock (Pretoria, 1968-), 1 774-8.
22. Although the subject of several theses and articles of uneven quality (listed in *ibid.*, p. 778), Stockenström is still in need of a well-trained biographer. In 1887 his son-in-law put many of his papers into a narrative that still stands as the best explanation of Stockenström's ideas and

- acts: *The Autobiography of the late Sir Andries Stockenstrom, bart.*, ed. C. W. Hutton, 2 vols (Cape Town, 1887). J. L. Dracopoli's recent study is a well-written, accurate but largely superficial and undocumented biography: *Sir Andries Stockenstrom, 1792-1864: The Origins of the Racial Conflict in South Africa* (Cape Town, 1969).
23. Memorandum to Lt. Gov. Bourke, 3 April 1828, reprinted in Hutton, *Autobiography*, I 286-91.
 24. *Ibid.*, p. 286.
 25. Stockenstrom to Rev. Murray, *ibid.*, p. 233.
 26. Especially after 1828, when he served as commissioner-general, Stockenstrom was involved in one controversy after another. It would appear that Stockenstrom was also a bit head-strong, if not outright stubborn on occasion.
 27. Reprinted by Witwatersrand University Press (1957).
 28. Marais's insight here rested heavily upon the contributions made by H. A. Reyburn in a number of articles published under the general title of 'Studies in Cape Frontier History', which appeared in *The Critic* (a quarterly published by the University of Cape Town) in 1934-5. See especially Part I: 'Land, Labour, and Law', in III (Oct. 1934), 40-56. Reyburn also sought to compare wage rates and found that the code of 1809 had not increased the incomes of Khoikhoi in service. Since his emphasis was on the years up to 1828, he did not apply his research skills to the 50th ordinance.
 29. Marais, *Cape Coloured People*, p. 185.
 30. *Ibid.*, pp. 185-6.
 31. The most important would seem to be John S. Galbraith's *Reluctant Empire: British Policy on the South African Frontier, 1834-1854* (Berkeley, 1963), in which Dr Philip's influence in determining policy for the non-Europeans is seriously questioned. It is also suggested that Philip's programme and treatment of the Khoikhoi might not have been as productive in helping them become a part of the Cape's society as was maintained by Macmillan and Philip himself. Although Galbraith's concerns go beyond the missionaries, he nonetheless proves the need for an extensive re-evaluation of missionary-Khoikhoi relations. Donovan Williams's *When Races Meet* (Johannesburg, 1967) attempts to use the career of William Ritchie Thomson as a way to gain insight into the colony's relations with communities on its borders. His explorations of relationships remain limited, but his use of missionary materials demonstrates the wealth of information that is available.
 32. For example, Isobel Eirlys Edwards, *Towards Emancipation: A Study in South African Slavery* (Cardiff, 1942), and George R. Mellor, *British Imperial Trusteeship, 1783-1850* (London, 1951). Yet the need to be wary in assuming that the place of the Khoikhoi or Cape Coloured was unchanging in British policy has been shown by Stanley Trapido in 'The Origins of the Cape Franchise Qualifications of 1853', *Journal of African History*, v (1964), no. 1, 37-54.
 33. For example, D. J. Murray, *The West Indies and the Development of Colonial Government, 1801-1834* (Oxford, 1965). See also D. M. Young,

The Colonial Office in the Early Nineteenth Century (London, 1961), and the following recent articles: Helen Taft Manning, 'Who Ran the British Empire, 1830-1850?', *Journal of British Studies*, v (Nov. 1965), 88-121; A. G. L. Shaw, 'British Attitudes to the Colonies, ca. 1820-1850', *ibid.*, ix (Nov. 1969), 71-95; and N. D. McLachlan, 'Bathurst at the Colonial Office, 1812-27: A Reconnaissance', *Historical Studies*, xiii (April 1969), 477-502.

34. Two studies on race relations and the Cape Coloured people in different time periods seem rich in both ideas and methods for the historian working on the 19th century. In the first part of I. D. MacCrone's *Race Attitudes in South Africa: Historical, Experimental and Psychological Studies* (London, 1937) the author charts racial attitudes in the 18th century in the Cape colony and suggests that they remained fixed from the end of the 18th century on to the present. Sheila Patterson's *Colour and Culture in South Africa: A Study of the Status of the Cape Coloured People within the Social Structure of the Union of South Africa* (London, 1953) is patterned closely after Gunnar Myrdal's *An American Dilemma*. Although designed as a contemporary study, the work would seem to indicate ways to examine the internal structure and social life of the Cape Coloured in the 19th century.
35. The rescinding of the 'pass law', however, would tend to make labour less regular, and this might influence wages paid. The general character of the Cape's economy in this period, marked by self-sufficiency and limited exports, would naturally influence any wage scale and tend to keep compensation for unskilled labour at a low level.
36. For example, if a contract did not expressly exclude the providing of food and lodging, the employer assumed this obligation, a practice common under the code of 1809.
37. In the wording of this provision, there was a slight difference between the two codes: that of 1809 called for any contract of a calendar month or more to be in writing, that of 1828 required a written contract for any period of time exceeding one calendar month. It would appear that no significant change was intended here.
38. Supposedly each district was divided into wards, and a field-cornet was appointed for each ward. The wards varied in size, but the field-cornet was to remain throughout this period as the 'local representative' of the government. In 1825 there were 158 field-cornets in the colony; in 1837 assistant field-cornets were appointed in some districts; and by 1845 there were 176 field-cornets and 164 assistant field-cornets. Yet even in 1845 some of these officials were in charge of wards that exceeded 500 square miles. 'Cape of Good Hope: Report from the Committee of the Legislative Council on the Judicial Establishment of the Colony of the Cape of Good Hope Together with the Minutes of Evidence and Appendix', 1845, in dispatch no. 56 of 1846, G.H. 28/32 (Cape).
39. The district landdrost, as noted in section II, was the chief agent of the central government in each district. In 1828 the office was abolished, and the duties were divided between a civil commissioner and a resident magistrate. From 1831, owing to the need to cut costs, both offices were to

be given to the same person, which in effect nullified the reform of 1828. The districts varied in size, but virtually all of them were huge. Duly, *British Land Policy at the Cape*, pp. 12-13.

40. Unrelated to the 50th ordinance were the extensive changes made in the Cape's administrative and judicial systems in 1828. As indicated in p. 51, note 39 above, a civil commissioner and a resident magistrate were appointed for each district, and the clerk of the peace served as the recorder, investigator and prosecutor in the resident magistrate's court. The justices of the peace, of which only four were appointed in 1828, had but a petty jurisdiction in the judicial system. For an excellent summary of the Cape's judicial system, see 'Report from the Committee of the Legislative Council on the Judicial Establishment . . .' 1845, G.H. 28/32 (Cape).
41. For an example of a justice of the peace who did take an active part in settling contract disputes, see John Addey to Secretary to Government, Wellington, 23 Sept. 1845, C.O. 4387 (Cape). For a general description of the workload of the magistrates' courts, see William Menzies, 'Observations on Some Parts of the Judicial System and Civil Establishment of the Colony of the Cape of Good Hope', in Menzies to Cole, 16 Feb. 1829, C.O. 372 (Cape).
42. In general, resident magistrates were prohibited from hearing cases in which the sum or matter in dispute exceeded the amount or value of £10 and from awarding fines in excess of £5 or imprisoning for more than one month. Cases involving greater sums or punishments were to go to the circuit courts of the Supreme Court or directly to the Supreme Court. It would be most unlikely that any case involving wages would not fall within the jurisdiction of the resident magistrate, and in perusing the records of the circuit courts and Supreme Court I have found no instance of claims for wages being pressed by rural employees.
43. For example, Marais, *Cape Coloured People*, p. 181.
44. Napier to Glenelg, dispatch no. 40, 22 June 1838, G.H. 23/12 (Cape).
45. Napier to Glenelg, dispatch no. 22, 16 March 1841, G.H. 23/13 (Cape).
46. Cape Town *Government Gazette*, 5 March 1841. This act, ordinance 1 of 1841, repealed all of the clauses of the 50th ordinance. It did not go into force until it received the necessary ratification by London in 1842.
47. R. Hart Seur, Justice of the Peace of Glen Avon, to Secretary to Government, 29 April 1845, C.O. 4387 (Cape).
48. Justice of the Peace of Beaufort to Secretary to Government, 30 April 1845, C.O. 4387 (Cape).
49. For example, Napier to Glenelg, dispatch no. 40, 22 June 1838, G.H. 23/12 (Cape).
50. Marais, *Cape Coloured People*, pp. 181-2.
51. In 1829 one of the judges of the Supreme Court maintained that the resident magistrate courts, with an average of 158 civil and eighty-eight criminal cases per year, had considerable time on their hands. ('Observations . . .', in Menzies to Cole, 16 Feb. 1829, C.O. 372 (Cape).) In 1845, after the creation of some additional magistrate courts, the annual average was eighty-six civil and 115 criminal cases per resident magis-

trate court. ('Report from the Committee of the Legislative Council on the Judicial Establishment . . .', 1845, G.H. 28/32 (Cape).)

52. The circuit courts in the early 1840s, for example, handled an average of 199 cases per year, of which 144 were concerned with the theft of property. ('Report from the Committee of the Legislative Council on the Judicial Establishment . . .', 1845, G.H. 28/32 (Cape).) Although resident magistrates were not required to report to government on cases tried before them, judges of the Supreme Court on circuit sometimes provided statements on the nature and degree of crime existing in the districts. Seldom was the basic economic relationship between Khoikhoi and European the subject of comment in these reports.
53. Although Marais and most writers cite the vagrancy ordinance of 1834 (which was reserved by the governor and then rejected by London) as the major attempt to reverse the 50th ordinance, a number of officials continued to express the need for a vagrancy act after 1834. For example, see Napier to Glenelg, dispatch no. 40, 22 June 1838, G.H. 23/12 (Cape) and Napier to Normanby, dispatch no. 58, 1 July 1839, G.H. 23/12 (Cape).
54. Justice of the Peace of Beaufort to John Montagu, 7 May 1845, C.O. 4387 (Cape).
55. The same book was sometimes used to record both Khoikhoi and Xhosa contracts on an indiscriminate basis. The problem here was that the 50th ordinance did not cover the Xhosa, who needed both passes and contracts to work in the colony. (William Menzies to Napier, 10 Oct. 1838, C.O. 471 (Cape).) Clerks were not required to send reports on contracts to any senior office, nor were their books subject to regular inspection.
56. For example, Oliphant to Secretary to Government, 17 June 1829, C.O. 372 (Cape) and Addey to Secretary to Government, 23 Sept. 1845, C.O. 4387 (Cape).
57. Addey to Secretary to Government, 23 Sept. 1845, C.O. 4387 (Cape).
58. See notes 38 and 51 on pp. 51 and 52, respectively. In 1830 Governor Cole wrote to London: 'The opinion expressed by Lt. Col. Bell [Secretary to Government] upon the Local Magistracy of the Colony that there are many who are not as well qualified for their Situations as it is desirable they should be is perfectly correct but this has arisen solely from the impossibility of procuring at the time persons of superior qualifications in the colony. The present Magistrates have in general claims on the Government for past services, and if removed must be pensioned, which the Colonial Finances would ill admit of.' (Cole to Goderich, dispatch no. 44, 4 July 1831, G.H. 23/9 (Cape).) See also D'Urban to Glenelg, dispatch no. 12, 22 April 1836, G.H. 23/11 (Cape) and Sir John Wylde to D'Urban, 10 Feb. 1836, C.O. 449 (Cape) for other complaints on magistrates' inability to provide service.
59. Resident magistrates could only imprison for one month, impose a fine of up to £5, and/or order a private whipping. Any crime calling for a greater punishment had to be reserved for the jurisdiction of the circuit or Supreme Court. Although the Supreme Court urged the

- granting of more authority to the resident magistrates in the 1830s, no significant changes were made.
60. J. W. Blake, Justice of the Peace of Colesberg, to Secretary to Government, 13 May 1845, C.O. 4387 (Cape). See also Menzies to Secretary to Government, 18 July 1833, C.O. 418 (Cape); Resident Magistrate of Cradock to Secretary to Government, 30 April 1845, and E. Bergh to John Montagu, 7 May 1845, C.O. 4387 (Cape). The last attempts to describe the 'psychological impact' of these 'great and harassing difficulties' for the country population.
 61. Menzies to Secretary to Government, 18 July 1833, C.O. 418 (Cape) and 'Skeleton Report on Judicial System', 1846, C.O. 4387 (Cape).
 62. In the annual *Blue Books* of the Cape during the early 1830s no distinctions based upon race appeared in the statistics on the colony's population and courts. In 1837 the general population was divided by race, and in 1838 prison statistics were grouped under the two major headings of 'White' and 'Black or Coloured'. See C.O. 5979 and C.O. 5980 (Cape).
 63. As one official claimed in 1833, 'not one person in a Thousand receives or reads the Gazette, so as in fact to become informed of such notices . . .' (Daniel J. Cloete to J. G. Brink, 2 Oct. 1833, C.O. 418 (Cape).) Stockenstrom said later: 'Of nothing is the want felt here more than of the means of Communication on the part of Government with the Inhabitants in general, both in the English and Dutch Languages . . . the mass of the population may be said to be as ignorant of what is legally right or wrong, of the views, objects and measures of the Government and State of the Country, as the Zoolas are of the British Statutes or European politics.' (Stockenstrom to D'Urban, 22 April 1837, C.O. 4382 (Cape).)
 64. 'Report from the Committee of the Legislative Council on the Judicial Establishment . . .', 1845, G.H. 28/32 (Cape).
 65. The major, continuing confrontation took place between the chief justice, Sir John Wylde, and the senior puisne judge, William Menzies. By the late 1830s the dispute, laden with accusations and damaging charges, was publicised in a series of pamphlets by Menzies and Stockenstrom. Burton, before he left the colony, described the feud in a number of letters to former Lt. Gov. Bourke which are now in Rhodes House, Oxford.
 66. For example, from 1828 to 1831 the court was divided over whether or not a person who did not understand English could serve as a juror under the Charter of Justice. The chief justice, in representing the court, had an erratic relationship with government and sometimes contradicted himself. See John Bell to Bourke, 8 Feb. 1831, Mss. Afr. t 7/8 (Rhodes House).
 67. Burton to Bourke, 27 Feb. 1831, *ibid.*
 68. 'Observations . . .', in Menzies to Cole, 16 Feb. 1829, C.O. 372 (Cape).
 69. Menzies worried about the expense of justice and disliked having to visit districts where the business for the circuit court was quite limited. In September of 1828, for example, he asked the governor if it was neces-

sary for him to hold a court in Clanwilliam, where there was only one criminal case for trial, a Khoikhoi charged with stealing sheep. 'If, as I have reason to believe, he is the same individual who was in custody, when I was at Clanwilliam last circuit, he is a miserable Hottentot who was found wandering about the Country, and who confessed that having been driven by his Master's ill-usage to leave his service a considerable time before, he has since that time killed and eaten two sheep.' Menzies, 'Notes on the Subject of the Propriety of Holding Circuit Courts at Clan William, Beaufort & George', 11 Sept. 1828, C.O. 337 (Cape).

70. 'Observations . . .', in Menzies to Cole, 16 Feb. 1829, C.O. 372 (Cape).
71. Ibid.
72. Menzies to Cole, 18 April 1830, C.O. 379 (Cape).
73. Menzies to D'Urban, 19 Aug. 1834, C.O. 430 (Cape).
74. The original bill was rejected by the Supreme Court because it was defective in its form. Menzies, on his own, framed an amended version that expressed his own beliefs. D'Urban to Spring Rice, separate and private, 27 Oct. 1834, C.O. 48/156 (PRO).
75. Menzies to D'Urban, 22 Aug. 1834, C.O. 430 (Cape).
76. These included 'insolence to one's master, scandalous immorality, drunkenness and other gross misconduct'. See Napier to Russell, dispatch no. 7, 30 Jan. 1840, G.H. 23/12 (Cape) and Russell to Napier, dispatch no. 118, 26 Oct. 1840, G.H. 1/27 (Cape).
77. Wylde's temper, lack of grace and complicated family troubles hurt his relationships with others in the Cape government and further detracted from his leadership ability. For a short biographical sketch, see 'Sir John Wylde', *South African Law Journal*, 1 (1933), 285-97.
78. Burton claimed that Wylde relied heavily upon Menzies's opinion 'in order to avoid the trouble (if he has the capacity) of searching the law, and framing his own'. Burton to Bourke, 27 Feb. 1831, Mss. Afr. t 7/8 (Rhodes House).
79. Wylde to D'Urban, 22 Oct. 1835, C.O. 439 (Cape).
80. Wylde to D'Urban, 14 March 1836, C.O. 449 (Cape). See also Wylde to D'Urban, 16 July and 21 Oct. 1836, in same volume.
81. Wylde to D'Urban, 22 Oct. 1835, C.O. 439 (Cape).
82. Ibid.
83. At times it is exceedingly difficult to identify the race or culture of those involved in circuit cases, but Marais in his discussion of this case provides the same classification as given above. (*Cape Coloured People*, pp. 181-2.)
84. Napier to Normanby, dispatch no. 58, 1 July 1839, G.H. 23/12 (Cape).
85. Ibid.
86. Burton fully approved of the junior puisne judge and his principles. Burton to Bourke, 27 Feb. 1831, Mss. Afr. t 7/8 (Rhodes House).
87. One of the few alterations in the 1830s came from outside of the colony when London told the West Indian and Cape colonies in 1837 that transportation could no longer be used as a punishment. The Colonial Office felt that 'especially for the Negro race this mode of punishment

- fails to possess most of the essential qualities of efficient secondary punishment'. (Glenelg to D'Urban, circular, 25 May 1837, G.H. 1/24 (Cape).) Each member of the court was asked by the governor to recommend an alternative sentence for each of the persons sentenced by him but still awaiting passage to Australia. In complying, the court evidently did not discuss the establishment of new standards or consider a point made quite clear in the lists provided by the governor, that the majority of those sentenced to transportation were non-Europeans convicted of theft. See Menzies to Bell, 21 Aug. 1838, Kekewich to Bell, 9 Nov. 1838 and Wylde to Bell, 24 Nov. 1838, C.O. 471 (Cape).
88. For example, Kekewich in his report in 1829 decided not to present 'remarks made by the Field Cornets and others on the effect of the Ordinance No. 50 as that Ordinance has received the Confirmation of His Majesty in Council'. (Kekewich to Secretary to Government, 26 Aug. 1829, C.O. 372 (Cape).)
 89. Marais provides the best general account of the project, but a fuller study, dealing with the settlement's relationships with the colony and with the peoples to the east, is still needed. He states that 'The Government seemed to take a serious interest in the settlement only when a Xosa war was on and it wanted the inhabitants to take part in the defence of the Colony'. Marais, *Cape Coloured People*, p. 221.
 90. For example, see Wade to Stanley, dispatch no. 2, 4 Jan. 1834, C.O. 48/154 (PRO); D'Urban to Glenelg, dispatch no. 53, 19 Aug. 1837, C.O. 48/172 (PRO); and Glenelg to Napier, dispatch no. 4, 9 Nov. 1837, C.O. 49/28 (PRO).
 91. The colony's administration of land policy was in an acute state of confusion that showed no sign of improvement until after 1835. The backlog of applications, amounting to more than 4500 in 1828, would have delayed the granting of land to Khoikhoi applicants. Duly, *British Land Policy at the Cape*, pp. 104-19.
 92. For example, a willingness to spend money to convert slaves to Christianity when the entire budget of the Cape had just been heavily reduced. Goderich to Cole, dispatch no. 43, 11 Aug. 1831, G.H. 1/18 (Cape).
 93. Aberdeen to D'Urban, separate, 11 March 1835, G.H. 1/21 (Cape).
 94. Murray to Cole, separate, 3 Aug. 1828, G.H. 1/15 (Cape) and Murray to Commission, 3 Aug. 1828, C.O. 49/8 (PRO).
 95. 'Report of His Majesty's Commission of Inquiry relating to the Condition of the Hottentots, Bushmen and Caffres and other Native Tribes of South Africa', Great Britain, *Sessional Papers*, 1830 (584), xxi.

3 The Evolution of Monetary Policy in South Africa*

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THE purpose of this paper is to trace the development of South African monetary policy, paying particular attention to the importance for monetary policy of capital mobility. The discussion first concerns itself with the nature of the South African financial system before 1920.

I. THE SOUTH AFRICAN FINANCIAL SYSTEM BEFORE 1920

By 1920, the year of the establishment of the South African Reserve Bank, the South African banking structure was highly concentrated. In that same year the Standard Bank of South Africa Limited absorbed a major rival, the African Banking Corporation, leaving the Standard and the National Bank of South Africa Limited to operate two parallel branch banking networks providing the great bulk of commercial banking services.

The Standard Bank was the second of the so-called 'Imperial' banks in South Africa. These were limited liability banks established in London with capital raised there for the purpose of financing South African and other overseas banking. This class of British bank in South Africa was much more heavily capitalised than their indigenous banking rivals founded with local capital, and soon came to dominate the Cape Colony's banking. The National Bank of South Africa (originally the Nationale Bank der Zuid-Afrikaansche Republiek (Beperkt), however, was incorporated in the South African Republic in 1891 to take advantage of a banking concession.

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The Standard and the National banks came to their banking dominance not only by establishing branches and through the insolvency of banking rivals, but also through the process of taking over individual South African banks, both local and London-financed, and merging them into their branch banking networks. In 1926 the National Bank was itself absorbed by Barclays Bank (Dominion, Colonial and Overseas).¹

As could be expected from such a highly concentrated banking structure there was no important market in commercial bills. Flows of funds from branches with surplus cash to those short of cash took place within the banks themselves. Bank lending was in turn primarily in the form of overdraft accounts. In short, therefore, the banks operated an English-type branch banking business in South Africa.

The banks' first line of cash reserves was gold and silver coins in the tills of the branches. The second line of liquid reserves was assets held in the London money market. The liquid reserves of the banks, applicable to their South African business, were in effect the country's foreign exchange reserves. When the South African balance of payments was favourable with the rest of the world the banks would receive additional deposits in South Africa and accumulate assets in London, and when it was unfavourable assets and deposits would run down. Correspondingly, it may be presumed that the banks would have been prepared to undertake more profitable lending in South Africa when supported by relatively large liquid reserves. Similarly, when confronted by a fall in reserves the banks could have been expected to reduce their lending in South Africa. Of further importance for the banks' portfolios preferences could have been the prevailing structure of interest rates in the London market. High interest rates tended to induce the banks to retain funds in London, while lower rates were inclined to push them out.

The reputation of the banks also enabled them to borrow in the London market. However it would appear that borrowing facilities were limited. On this question Williams remarks that:

The London market was extremely sensitive to unusual increases in the volume of bills rediscounted by particular banks or for particular trades or countries. Changes in overseas banks' liquidity positions in London were, therefore,

fairly quickly noted by their activities in the open market, with consequential changes in credit availability for them and in the price of their credit in London. Moreover, variations in credit availability in London would, usually, be sufficient incentives for the banks to curb their overseas operations.

Overlending by London capital market to any one country or type of industry was also brought to an end by the increasing unwillingness of investors to absorb new long-term securities of particular borrowers. The disenchantment of investors, however, usually followed, rather than led, a deterioration in economic conditions in the borrowing country, which brought with it default on principal and interest.²

It is clear that aside from the 'elbow room' provided by their balances and borrowing powers in London the banks in the longer run could not avoid adjustments to a declining level of reserves. In turn, therefore, the South African economy could not avoid adjustments to an unfavourable balance of payments – adjustments made by way of a declining money supply as the banks reduced their South African lending.

Frankel has interpreted the link between the London balances and economic activity in South Africa as follows:

The causes of recurrent credit expansion and contraction have remained basically the same. The growth in excess funds in London of the banks whether due to the excess of visible exports or to capital imports, leads to an expansion of credit in the Union. Eventually inflation results and usually takes the form of large increases in share, land and property values throughout the country. The process is reversed when the funds of the banks in London decline.³

This may however be placing rather too much emphasis on variations in the supply of capital as initiating fluctuations in economic activity. The banks had a certain view of the type of lending or more particularly perhaps the type of borrower that constituted an acceptable risk. This would not be likely to vary greatly with increases in their liquid reserves.

The suggestion of automatism induced by credit changes in the London market, despite the deep penetration of British

banks in the overseas territories, seems contrary to the working of the rapidly evolving and highly volatile overseas economies in the latter part of the nineteenth century. Indeed the overseas monetary institutions reacted primarily to changes in local conditions. They were essential risk takers and their risk-taking ebbed and flowed over the short-run, in the light of profitability and changing economic prospects in the overseas territories, rather than in immediate adjustments to changes in liquidity in the London market. . . .⁴

. . . On the other hand, if the overseas countries 'over-borrowed', i.e. foreign loans did not produce in reasonable time a rise in their export receipts or produce sufficient foreign exchange earnings to meet debt obligations in London, there was usually a crisis locally and growing difficulties in raising funds in London, both short term and long term, which then led to local domestic depression. . . .

In those cases where the capital transfer was not effected by a rise in export receipts the ensuing balance of payments difficulties inevitably resulted.⁵

The replies of Mr John Paul Gibson, General Manager of the Standard Bank in South Africa, to the questioning of Professor Kemmerer in 1925 would appear to confirm the importance of variations in the demand for capital from South African borrowers. Gibson was, however, referring most immediately to the post-war deflation in South Africa, a period also of some uncertainty about the London-South African exchange rate – as the following extract from Evidence shows.

How about the rate of interest here in South Africa as compared with the rate of interest on similar investments in London? – It is much higher. The rate of interest, of course, is very largely a matter of the stage of a country's development. Our rate of interest is not much higher than Australia or Canada for instance.

If the rate of interest is considerably higher in South Africa than in London, why do you think it desirable as a matter of policy to keep balances of four or five millions in London right along, that is, in a market where the rate of interest is lower? The presumption would seem to be that a bank having funds

which it could use in a money market where the rate was low, or where the rate was high, would keep those funds where the rate was high? – If you have a market in which to employ them, but there is not scope for their employment in South Africa, and here we have no short loan market. These funds are really surplus, in a way: an amount kept in hand to give sufficient elbow-room.

To take up the slack? – That is really what it is.

Your point is that you are keeping these funds in London where they can be safely employed? – Yes.

Because they cannot be employed profitably here? – There is no short loan market in South Africa. As a matter of fact, up to recently we had over a million and three-quarters with the Government on Treasury bills, simply to employ some of the surplus money we have in South Africa.

Does that mean that the banks here are overcapitalized.

It would seem if you need to keep such large balances over in London because those funds cannot be used here, that perhaps the banks of this country are overcapitalized? – No, they are not overcapitalized. There has been the enormous decline in values in recent years, and at present there is little demand for money in South Africa.

I suppose the demand is to a considerable extent a question of discount rates and exchange rates and so on? – Not in a country like this.

You would not increase the demand at all if you would make the exchange rates more favourable to importers here in the country, and if you would make the discount rates here more favourable to borrowers? – The exchange rates undoubtedly, but not the ordinary rates of interest and discount. A slight alteration in the rate would not affect the demand very much.

How about a substantial alteration in the rate? – You could not as a matter of fact, make a substantial alteration because the bank could not work at a profit and it could not go on working at a loss.

You are getting a pretty low rate of interest on the other side for your money? – It is better to get a low return than nothing at all.

You could reduce the rate here considerably and still get as

high a rate as you can get over there? – Well, the money employed in London is only a portion of our funds.

I am speaking of that particular portion? – If South African rates were brought right down to the London rates, they might as well go out of business because no bank could live.⁶

The development of the diamond and particularly the gold discoveries in the last quarter of the 19th century began the process of much more rapid growth in South Africa and the transformation of the precariously based agricultural economy. The early development of the Kimberley diamond fields before 1885 was financed primarily by local capital and the South African banks.⁷ Experience, wealth and reputations gained on the diamond fields were to be important in promoting the much larger scale enterprise of gold mining on the Rand. To be able to follow the gold-bearing reefs downwards required relatively large amounts of capital. Capital needs were far greater than the supply of local savings. The scale of mining operations and their financial requirements led to the establishment of the 'Group system', which is of course still characteristic of South African gold mining. The first group was established in 1887 by Cecil Rhodes as a vehicle for raising capital in London. In 1889 Barney Barnato founded his Johannesburg Consolidated Investment Corporation Ltd for similar reasons. Other groups grew out of previously established mining enterprises.⁸

Graham has described very clearly the functions and objectives of the South African mining groups. The main financial purpose of the groups is to ensure that mining operations can continue independently of unsympathetic capital markets. 'Virtual, though never complete certainty that mines will not run short of working capital at critical stages, that they will be brought to production on schedule lessens risk, which in turn encourages and facilitates capital flow. . . .'

In performing their financial function the groups 'combine the roles of bankers, financiers, issuing banks, underwriters and promoters'.⁹ Since the future state of capital markets is uncertain the ability to provide a continuous flow of capital to member mines demands that the parent group maintain sufficient liquid reserves. In the absence of a money market in South Africa

their reserves were kept mainly in London. Much of the Group and member mine capital was raised initially in London when capital market conditions were appropriate.

The ordinary share capital of the groups and their member mines were quoted on both the London and the Johannesburg Stock Exchanges. Apart from the banks and the groups the London market was also a very important source of loan capital for the South African municipal authorities, the colonial and later the South African governments. The major reason for the early calls on the London market were to finance the expansion of the colonial government's railway networks.¹⁰

As has been indicated the capital market of South Africa was thus firmly integrated with London. In addition the flow of South African trade was largely directed through London. The discussion however is not especially concerned with the cause and effect of fluctuations in economic activity in South Africa, though the observations made are suggestive of this. As will be emphasised below, the importance for the discussion of the integration of the South African and British capital markets rests in such capital movements as limit the ability of the South African Reserve Bank to undertake an independent monetary policy.

However, one further point about the balance of payments adjustment process should be made. If financial assets held within a country enjoy an international market, the sale of such assets may ease the process of adjustment to a balance of payments deficit. If the initial impact of a balance of payments deficit is on money balances, to restore their preferred stock of money, economic units will sell financial assets. In these circumstances, financial assets with a wider marketability will tend to retain their prices rather better than purely domestic financial assets. This must tend to encourage their sale and the foreign purchases of such assets helps offset the balance of payments deficit and the decrease in the money supply. The balance of payments adjustment process then works through the effects of a change in the net wealth of a region or country rather than through changes in its stock of money.¹¹

Essentially it is the integration of the capital markets between regions of a national monetary system that makes the balance of payments adjustments between regions so difficult to dissect.

Except for the 'depressed' areas, adjustments take place without apparent stress. The adjustment process is also assisted by a greater degree of mobility of labour. A factor promoting the integration of capital markets is confidence in exchange rate stability. Between regions this is perfect. One banker pronounced to the Kemmerer-Vissering Commission that the banks thought '... that South Africa was British sterling and England was British sterling'.¹²

In 1910 the Banking and currency laws of the colonies of South Africa continued to apply in what had become Provinces of the Union. Developments during the First World War instituted a different set of conditions in which the commercial banks operated. The outbreak of war with consequent risks to shipping and the unavailability of insurance to cover gold shipments had made the export of gold impracticable, and the gold points irrelevant. During 1915 sterling was pegged to the dollar at £1 = 4.76 dollars, that is, below the pre-war parity of 4.86 dollars, by way of operations in the foreign exchange market.¹³

In South Africa, while the banks were still obliged to convert their note and deposit liabilities into gold coin, an embargo was placed on the export of gold coin in 1917. The banks continued to quote the South African pound at a par with sterling. However sterling itself was now inconvertible and in comparison with gold and the dollar it depreciated.

Wartime expenditure in South Africa together with the difficulties in obtaining imports made for a favourable South African balance of payments with sterling areas. The Bank of England agreed to make payment for and to take delivery of gold at the South African ports while the actual shipment of gold took place when convenient.

In the normal way therefore, the South African commercial banks, bolstered by larger reserves in London, responded to the increased demand for funds in South Africa needed to finance the higher level of war and immediate post-war expenditure. Note and deposit liabilities expanded from £40.5m. in 1914 to the level of £103½m. in March 1920. At the same time prices in South Africa, as in most of the rest of the world, had increased considerably. Between 1914 and 1920 the index of wholesale prices rose from 1090 in 1914 to 2512 in 1920 while retail prices

increased from 1092 to 1957 over the same period (1910 = 1000). The subsequent deflation saw deposits decrease to £58·63m. in 1924.

In March 1919 official support for sterling at $4.76\frac{7}{16}$ dollars ended. During that year also, Britain relaxed restrictions on current and capital account transactions and restored some freedom to the London gold market. Subsequently sterling depreciated further relative to the dollar and gold. The South African banks still maintained parity with sterling. The export of gold coin, although illegal, was now both profitable and feasible with the availability of shipping. Gold coin was drained from the banks and smuggled out of the Union. Despite South Africa being the major gold producer there was, as yet, no local mint and to satisfy the demand for gold coin the banks had to import coin from London bearing both the higher prices and the costs of transport.¹⁴

The banks soon appealed to the South African Government to make the notes inconvertible. As G. de Kock reports, the government responded by inviting interested parties to a conference in October 1919, 'in order that by a free exchange of views the best ways of safeguarding the interests of South Africa and of placing its currency on a natural basis might be found'.¹⁵ The conference resolved that it had been 'impressed with the necessity for one uniform Bank Act for the whole Union and would impress upon the government the urgency of the introduction of such a measure in the next session of Parliament, which should provide, *inter alia*, stringent provisions against the inflation of currency'.¹⁶ De Kock considers that it was this resolution that led to the instruction given to the South African Treasury to draft new banking legislation.

The Treasury consulted Mr Henry Strakosch of London to assist them in the drafting of the required legislation. An advisory committee then considered three proposed Bills.

- (1) To conserve the specie supplies of the Union by providing for the issue of gold certificates;
- (2) to provide for the establishment of a central Reserve Bank for the Union;
- (3) to consolidate and amend the laws in force relating to the Banks.

II. THE SELECT COMMITTEE OF PARLIAMENT 1920 AND THE ESTABLISHMENT OF THE RESERVE BANK

Thereafter a Select Committee of Parliament was appointed to inquire and report upon:

(a) 'the effect of the embargo on the export of specie upon the cost of living;

(b) the desirability and practicability or otherwise, with a view to improving the economic conditions in the Union of removing the embargo and of modifying the statutory provisions at present in force in regard to currency and banking'.¹⁷

The Select Committee was in turn dominated by Strakosch and they accepted his proposals. The general philosophy of the committee is clearly illustrated in the following extracts of their Draft Report:

It is clear that by the severance of our connection with the gold basis brought about by the embargo on the export of gold coin has led to inflation, and to the real value purchasing power of the money in the hands of the people being divorced from reference to any concrete value in commodities. The removal of the natural restraint on the Banks imposed by adherence to an effective gold basis has resulted in an excessive increase of paper issues and other forms of commercial currency beyond the legitimate requirements of commerce, thereby creating an excess of money in circulation and an undue increase of the money prices of the necessities of life. . . .¹⁸

The considerations thus far advanced have convinced your committee that the principal needs to be kept in view in considering any of the proposals placed before it is that of effectively anchoring our currency system again to the gold basis as soon as practicable and the effective control of the banking system of the country.¹⁹

The Select Committee accordingly introduced a draft Bill into the House of Assembly on 5 July 1920. With only one minor amendment the bill was passed as the Currency and Banking Act of 1920. Designed to 'conserve the specie supplies of the Union by providing for the issue of gold certificates; to provide

for the establishment of a central reserve bank for the Union; to regulate the issue of bank notes, and the keeping of reserves with a view to securing greater stability in the monetary system of the Union, and generally to make provision for matters incidental thereto'.²⁰

The essential link broken during the war years was not so much the connection between the South African pound and gold, but that between sterling and gold. Ever since 1825 monetary assets in South Africa were convertible into coin or sterling bills. Sterling was in turn convertible into gold should this be required. During the war the link with sterling was maintained. However, sterling itself was inconvertible – war expenditure led to an inflation of prices in Britain and a depreciation of sterling in terms of what were now other international currencies, the dollar and gold.²¹

The major issue, whether or not to link the South African pound to sterling or the dollar, was largely ignored by the Select Committee. Notwithstanding the establishment of the South African Reserve Bank, bank notes including Reserve Bank notes and deposits remained inconvertible into gold. The determination of the sterling South African rate of exchange was left to the commercial banks. The question of linking the South African pound to sterling or gold was to be raised in considerable depth by the Kemmerer–Vissering commission of 1925 and became an issue of great political importance in 1931–2.

Charged with 'regulating the issue of bank notes and the keeping of reserves with a view to securing greater stability in the monetary system of the Union', the Reserve Bank itself, as is clearly indicated below, saw its prime role as that of 'controlling the exchange rate'. This was, of course, the orthodox gold standard requirement. Paradoxically, the commercial banks in South Africa had never failed to maintain parity with sterling. The following exchange between commissioners Kemmerer and Vissering and the Governor and Deputy Governor of the Reserve Bank, Messrs Clegg and Jorissen, gives a clear insight into the objectives of the bank and the problems faced in their implementation.

What do you consider to be the proper function of the Reserve Bank in South Africa? – Well, I think the Reserve

Bank in South Africa should do what every other central bank does; that is, have sufficient control over the available funds of the country to be able to make its bank rate effective. That is the chief internal duty.

To make its bank rate effective: why does it wish to make its bank rate effective? – In order to regulate the foreign exchanges.

And also to regulate the discount rate? – Its bank rate is the discount rate, as I see it.

A distinction is made between an exchange rate and a discount rate for internal operations although an exchange rate usually involves a discount rate? – When I am talking about the bank rate I mean the discount rate.

Do you think the bank has any function to perform in maintaining the gold standard when it is once adopted, or in maintaining reasonably stable exchange rates until the gold standard is adopted? Isn't it one of the functions of any central bank to conserve the money market in such a way as to maintain the standard of the currency effectively, as provided by law? – That is what I mean by saying sufficient control to make its bank rate effective. What I call an effective bank rate is to make the rate such that it controls the exchange rate.

I wonder if there are not two different things here. Let us forget the exchange rate for a moment. Suppose you just deal with the local situation. Suppose you had a situation in this country in which the Reserve Bank authorities thought the other banks were expanding unduly, that there were danger signs ahead, and that the other banks were 'riding for a fall'. If the Reserve Bank thought that, and it should have talked the matter over with the other banks, and the other banks should have disagreed with the Reserve Bank, then wouldn't it be the duty of the Reserve Bank to step in and do what it could to prevent what it considered to be dangerous over-expansion? – Yes. I may not have expressed myself very well, but that should really have been included in my first definition: That the Reserve Bank should have sufficient control over the available credit of the country; that if it thought that other banks were going too far, it should raise its rate of discount: that is to say, the market, as a whole, should be to a certain extent dependent upon the Reserve Bank. If the other

banks, for instance, found that they had to rely for a portion of their funds on the Reserve Bank, discounting and re-discounting, and the Reserve Bank raised its rate, it ought to have the effect of compelling them to raise their rates.

If the Reserve Bank raises its rate under such circumstances and the other banks, of which, as I understand, there are only two important ones, should practically say: 'We don't believe there is any danger. We have ample funds. We don't need to rediscount. Go ahead, raise your rate. We are going on, as we believe, wisely.' And if the other banks should then refuse to conform to this change in rates, how are you going to make your rate effective? – Well, I think in South Africa it would be very difficult, because there is no money market. In England, for instance, when the Bank of England wants to make its rate effective, it borrows in the market and mops up what it considers are surplus supplies of credit. In South Africa, it would be extremely difficult to do that unless the commercial banks were actually dependent upon the Reserve Bank for supplying a considerable portion of the funds which they were using.

They are not now dependent upon the Reserve Bank? – No, but in times of any considerable increase in business in South Africa they probably would have to depend on the Reserve Bank.

Even taking the conditions as they are, is there anything you could do to make your rate effective? – We could sell Government securities to the extent that we hold them if we could find a market for them.

If you would reduce the rate enough, presumably you would find a market? – Well, I don't know. I think sometimes we should find it very difficult to sell them.

Is there any other type of paper that you could carry and sell under such circumstances? – No.

In America, a Federal Reserve Bank can sell bank acceptances at such a time, which it always carries. But you would not have these bank securities.

(Mr. Middleton) Treasury bills? – Yes, I have already said Government securities.

(Professor Kemmerer) Would it be an advantage to the Reserve Bank in this connection, i.e. in making its rates

effective, if there existed in this country moderate quantities of short-time Treasury bills maturing at frequent intervals? – Yes, it would.

Isn't there another way in which the bank could make its rate effective from time to time, that is in dealing directly with the public in open market operations? If a bank wished to make its rate effective, it would reduce the discount rate at which it was ready to advance funds to the public? That in itself would tend to draw the market into the bank, would it not? – Recent history afforded a comment upon that in the fact that we had reduced our rate in order to stimulate the use of bills, and we have had during two months, I think, a couple of bills.²²

As indicated in the discussion above, the Reserve Bank would have preferred to operate in a short-term money market in the traditional central bank way. In addition the constitution of the Bank confined its operations to short-dated bills.²³ The problem for the Reserve Bank was the lack of either a supply of or a demand for short money market assets and liabilities. The more serious factor inhibiting the development of a short-term money market was the absence of short-term borrowers, either public or private. As has been indicated, the commercial banks and the mining groups found a satisfactory supply of liquid assets in the London market. The attempts of the Reserve Bank to encourage a market in commercial bills, despite assistance from the National Bank, in general failed. The National Bank in liquidity difficulties after the deflation of 1922–3 would have preferred to have discounted commercial bills for its customers and so have acquired assets eligible for rediscount.²⁴ The overdraft system was preferred by borrowers and in normal times, by the banks as well.

While the Reserve Bank failed to find a suitable money market it did, from its establishment, get its way with interest rates.²⁵ The two commercial banks were willing to accept the bank's lead on interest rates from the Reserve Bank. This was not so much because they expected to call upon the Reserve Bank as a lender of last resort since they generally wished to avoid such calls. There may well have been some element of pre-emptive competition against direct Reserve Bank lending. It was more

likely however, that the banks agreed not to compete directly with each other on interest rates and so were willing enough to delegate the role of price leader to the Reserve Bank. Clearly, however, controlling the level of interest rates did not mean control of the commercial banks' liquid reserves and the volume of lending they would have been willing to undertake at any given overdraft rates.

The unimpeded flow of funds between London and South Africa in effect rendered the Reserve Bank impotent to control the supply of money. The absence of a domestic money market and its restrictive constitution prevented any opportunity for neutralising operations whereby the Reserve Bank by varying its own portfolio of domestic securities could have hoped to offset the impact of the balance of payments on the domestic money supply. The Reserve Bank in the twenties, as has been indicated, did not intend to operate a monetary policy independently of the balance of payments. On the other hand, had there been a developed money market, and the same freedom to transfer capital, capital movements to and from South Africa would have been sensitive to interest rate differentials. An interest-sensitive capital market itself makes it very difficult to control the domestic supply of money independently of the balance of payments. The attempts to neutralise inflows or outflows of capital tend to be self-defeating. If capital flows in and the monetary authorities sell securities such sales tend to push up interest rates so leading to further inflows of capital. Similarly buying securities to prevent the money supply contracting when the balance of payments is in deficit causes interest rates to decline still further leading to additional capital outflows.²⁶ However, as will be explained below, capital did not flow to and from South Africa in response to interest rate differentials until after 1949. Frankel clearly recognised the importance of capital movements for monetary policy in South Africa and writing in 1938 indicates disappointment at the ineffectiveness of the Reserve Bank.

Most of the private listed capital from abroad has been raised by the issue of equity shares. Largely as a result of the Group system of finance on the Rand and its intimate overseas financial connections, the shares are dealt in as easily on the

main capital markets of Europe as on the Johannesburg Stock Exchange, where activities are almost wholly devoted to transactions in them. Indeed, the highly developed institutions responsible for the financing of mining enterprise continue, as in the past, to dominate the money and capital markets of the country . . . when the South African Reserve Bank was established, great hopes were entertained that it would be able to exercise effective control over credit conditions and industrial activity. It has so far failed to achieve this purpose, largely because of the fluctuations in these long term capital movements. The short term credit situation is similarly affected. The two Imperial Banks which dominate the commercial banking system are not the only sources of short term credit for either the Stock Exchange or commercial enterprise in the Union, both of which at times draw liberally on private sources abroad. Owing to its great dependence on the flow of capital from abroad, the Union is thus very greatly affected by financial conditions overseas, which largely determine its monetary policy.²⁷

Of particular significance for the evolution of monetary policy in South Africa has been the freedom to transfer capital. It is the major purpose of this essay to consider how the potential for an independent monetary policy in South Africa, independent that is of the balance of payments, altered with restrictions that came to be placed on the freedom to transfer goods and capital to and from South Africa.

The period 1919 to 1925 must have been difficult for the South African commercial banks. Over the period the pound South African was not quite the pound sterling despite the natural preference of the banks for keeping it that way. Variations in the rate of exchange between South Africa and London were much wider than they had been before. In 1920 the banks' buying rate for bills on London fluctuated from a discount of $7\frac{1}{2}\%$ to a premium of $5\frac{1}{2}\%$.²⁸ The banks held this discount responsible for the near exhaustion of their reserves in London. Partly in the light of this experience the banks were to hold in 1925 and again in 1932 that the South African pound could not stand effectively at a discount to sterling.²⁹

Witnesses to the Kemmerer-Vissering commission charged

the banks with artificially keeping up the local price of sterling. This, of course, the representative of the Standard Bank denied:

An impression is held, even in well-informed quarters, that the banks can manipulate the exchange position for their own benefit. This impression is groundless as any one familiar with exchange knows. The Union banks would incur grave risks were they to attempt to operate the great volume of South African exchange business at rates fixed arbitrarily without reference to the trade position.³⁰

The banks would appear to have kept abnormally large reserves in London over 1923, 1924. Two factors can be considered as responsible for this. Firstly, as the banks themselves suggested, the deflation in South Africa gave them less opportunity to employ these funds. Secondly, the prospect that the pound sterling would return to the pre-war gold parity would have encouraged the banks to retain large balances in London.³¹

In 1923, in terms of the original Banking and Currency Act of 1920, the inconvertibility of the gold certificates was to expire. A Reserve Bank proposal to extend the inconvertibility of the gold certificates until 30 June 1925 was accepted. It was also proposed that the Bank be permitted to discount Union and British government Treasury bills and so be able to hold these bills as cover for their note issue. In terms of the Act of 1920 the note issue had to be covered by not less than 40% in gold and the balance in trade bills. The main object of the use of Treasury bills 'was to enable the balances which the Banks (had) in London to be utilized'.³² Accordingly the Reserve Bank was authorised to hold as cover Union and British Treasury bills for a period of five years provided that these bills did not exceed 35% of the note issue or 140% of the trade bills held. The Bank, however, did not assume the exchange risks. The bills had to be repaid at maturity in Union currency or replaced by other bills.³³

III. THE KEMMERER-VISSERING COMMISSION, THE RETURN TO GOLD 1925 AND ITS ABANDONMENT 1932

Before the expiration of the inconvertibility of gold certificates the South African government requested Professor Kemmerer of

Princeton University and Dr Vissering, President of the Netherlands Bank, 'To visit the Union and investigate the question of the restoration of the gold standard by the Union independent of the United Kingdom.'³⁴ According to the report of the commissioners:

Under present conditions the problem practically narrows itself down to the question: Should South Africa, in determining now her future monetary policy, decide to tie up definitely with sterling, hoping that sterling will return to the gold basis soon, but being prepared to follow sterling wherever it may go, or should she decide to tie up definitely with gold. For some time the South African pound has been considerably more valuable than the pound sterling, but not until within the last few days has it been as measured by exchange rates, as valuable as the gold sovereign. Although bearing the name of a pound, the South African monetary unit has been for several years, both in its gold value and in its value as measured by its purchasing power over commodities, a different pound from the pound sterling. It has responded very incompletely and with substantial lags in time to the ups and downs in the value of sterling. This fact has led to confusion and misunderstanding among bankers, merchants, and the public generally. Your Commissioners believe that South Africa is too small a country, from an economic point of view, to have a monetary standard so independent of the monetary standards of other countries, and that it is clearly to South Africa's interest to tie up definitely either with sterling as Egypt has done, or with gold as Canada is doing. The question is: Which?³⁵

The commissioners recommended a return to gold parities. They did so 'while expecting sterling to return to gold parity within the next six months'; however, they did not feel 'justified in basing their recommendations on the assumption that such a return would take place'.³⁶ They argued that the South African pound already had almost reached parity and that the level of prices in South Africa had come closer to pre-war levels than those of any other country.³⁷ 'The return to the gold standard would probably require therefore no more deflation. That dis-

agreeable job has already been done during the last four and a half years.³⁸

Any return to gold independently of sterling as has been previously mentioned was against the advice of the bankers. These arguments were without any apparent appreciation of the theory of purchasing power parity which the commissioners held to be pertinent. Their main objection was that an outflow of capital would make any appreciation of the South African pound relative to sterling untenable. Since the bankers directly commanded considerable funds, their views were of significance.

The discussion with professional economists brought before the commissioners provides a full and interesting debate on the theoretical issue involved.³⁹ The modern theory of optimum currency areas would bear directly on the question.⁴⁰ The issue, however, was to remain academic as Britain returned to gold before South Africa was to do so on 1 July 1925. South Africa thereafter resumed her link with both sterling and gold. Nevertheless the arguments raised by the commissioners would appear to have been of some influence in South Africa's decision to stay on gold in 1931 independently of sterling.⁴¹

Until 1925 the gold-mining groups sold sterling to the commercial banks which was surplus to their own requirements. In 1925, when the gold premium in London had disappeared, it became economic for the mining groups to sell their gold in South Africa, either through converting gold bullion into gold coin at the South African mint established in 1923, or through sales of gold to the Reserve Bank. For the Reserve Bank to receive the gold was the most convenient arrangement for all parties and so on 8 January 1925 the Bank purchased its first gold bullion from the mines. After 1929 the Reserve Bank handled practically the entire South African gold production. The effects of this were to reverse a very important part of the flow of funds between South Africa and London. The commercial banks received the proceeds of gold sales in South Africa and not in London. In addition the Reserve Bank's holdings of gold increased and the commercial banks would have had to use their additional deposits with the Reserve Bank to acquire sterling. They were therefore even less likely to use the discount facilities of the Reserve Bank.⁴² The Reserve Bank was, however, now placed more firmly in the centre of the

South African monetary system. Clearly it did not imply any less freedom for the commercial banks or others to transfer funds between South Africa and London.

With the prospect of regular receipts of gold the Reserve Bank was able to work much closer to its legal minimum gold reserves. For this purpose the Reserve Bank also made arrangements with the Bank of England to sell Reserve Bank bills for gold in London with the proceeds to be earmarked for the Reserve Bank account.⁴³

It was only in 1927 that the South African government accounts were transferred from the commercial banks to the Reserve Bank. The Bank made special arrangements with the Treasury, the South African Railways and Harbours and the Public Debt Commissioners to manage their accounts free of charge in return for their maintenance of minimum balances. The Reserve Bank was to invest excess balances in London or in the Union.⁴⁴

After Britain went off gold in September 1931 South Africa decided to retain the gold parity independently. As the banks had predicted in 1925, the capital account of the balance of payments became unfavourable. The exact amount of this outflow is not known and calculations of it were subject to much controversy.⁴⁵ The South African commercial banks, consistent with their view that the South African pound was not able, in the long run, to stand at a premium to the pound sterling, were unwilling to meet all demands for sterling out of their own reserves. The Reserve Bank was therefore obliged to satisfy the excess demand for sterling. Later the commercial banks supplied the Reserve Bank with £5m. sterling as their contribution to a foreign exchange pool of £10m. sterling.⁴⁶

The outflow of capital and the disintegration of the banks' operations in London and South Africa meant an increased demand for Reserve Bank facilities. The Reserve Bank lent freely at high interest rates against eligible assets. Reserve Bank loans to the commercial banks and the government increased from £0.893m. in September 1931 to £8.434m. in March 1932. Thereafter its lending increased slightly to reach £8.515m. in July 1932 and at the end of 1932 total Reserve Bank lending stood at £7.141m.⁴⁷ This lending, however, did not reverse the

decrease in the money supply caused by the capital outflow and therefore could be considered as consistent with orthodox gold standard 'rules of the game'.⁴⁸

By the second half of 1932 the monetary situation in South Africa had become much easier. The initial outflow of capital had apparently exhausted itself and the current account of the balance of payments was favourable. The deflation accompanying the reduction in the money supply had decisively reduced the demand for imports. With the reduction in mining costs the production of gold was more profitable, and unlike most other exports in the World Depression the output of gold was maintained. The time period was rather short to have expected any increase in output in response to increased profits. The South African government had also succeeded in raising £8m. in London in October 1932, which further improved the balance of payments and financial prospects.⁴⁹

Despite the entirely satisfactory state of the balance of payments, South Africa went off gold at the end of 1932. Exporters (including initially, but not subsequently, the Chamber of Mines) had from the first favoured devaluation. They were joined by the powerful opposition South African Party. In December 1932 a former government minister, Tielman Roos, resigned from the judicial bench to campaign against the maintenance of the gold standard. The immediate effect of his steps was an internal drain of gold coin. After some Government and Reserve Bank confusion South Africa effectively left gold on 29 December 1932.⁵⁰

Immediately after the gold standard was abandoned the Reserve Bank was not active in the foreign exchange market. The commercial banks were rather left alone to find the market rate. Speculation, however, soon reduced the sterling discount. The Reserve Bank reported in 1933 that 'Trade and industry would not operate freely nor would exchange speculation cease until there no longer remained a disparity between the South African pound and sterling'.⁵¹ Accordingly the Currency and Exchanges Act of 1933 was passed with retrospective effect from 20 January, instructing the Reserve Bank to act 'in manner and to the extent which it considers best calculated to prevent undue fluctuation in the exchange value of Union currency in relation to sterling . . .'.⁵² Thus South Africa returned to a sterling

standard. Not on this occasion a sterling standard tied to gold.

The balance of payments was expected to be favourable and both the Reserve Bank and the commercial banks were unwilling to accept the exchange risks that would be associated with holding inconvertible sterling balances. The Reserve Bank accordingly suggested that it would be prepared to accumulate a pool of sterling if in turn the government would bear any exchange losses. The government agreed and the Reserve Bank accepted surplus sterling from the commercial banks. The commercial banks in turn agreed to quote rates on London near to parity with sterling. The general risk of foreign exchange losses tended therefore to insulate the banks' operations in South Africa from those in London. The Reserve Bank accordingly was able to establish its function as the central repository of reserves and its authority as a bankers' bank.⁵³

The departure from the gold standard did not involve the Reserve Bank in any fundamental change in its role as a central bank. One form of international standard, gold, had been replaced by another and now separate standard, sterling. Its task as the Reserve Bank understood it was to ensure that the South African pound retained parity with sterling. The South African balance of payments accounts, as had been expected, became highly favourable in 1933. The expansion of the domestic money supply therefore followed automatically.⁵⁴

The period 1933 to 1939 saw considerable real expansion of the South African economy. Prices remained relatively stable and gold mining output in particular expanded in response to a higher price and stable costs. In addition the gold mining groups were able to raise a considerable amount of foreign capital to assist their expansion.

South Africa entered the War in 1939 against considerable political opposition. This opposition influenced South Africa's willingness to make economic sacrifices for the combined war effort. This is evident in South Africa's monetary and commercial relationships with the sterling area. The sterling area, through war-time exigencies, had become a formal arrangement designed to conserve the area's reserves of hard currencies. Sayers has suggested that South Africa 'never really accepted' the principle of the central pool of gold and dollars:

In this general [South Africa's political] situation it is not to be wondered at that the Union Government was always inclined to limit its commitments altogether more narrowly than did Britain's other partners in the Commonwealth. Most damaging was its attitude on the central pool of gold and dollars, the principle of which was never really accepted by South Africa.⁵⁵

South Africa's balance of payments throughout the war continued to be highly favourable. Accordingly for the first years of the war little attempt was made to control imports. In September 1941 a system of import controls through import permits was established. G. de Kock indicates that 'the primary object of the import control was not to conserve foreign exchange, but to ensure that the limited shipping facilities available were used to transport the more essential supplies'.⁵⁶ Indeed it was mainly shipping stringencies and difficulties in supply countries that reduced South African imports from all sources, from £135m. in 1941 to about £117m. in 1942, at about which level it remained till the end of the war. As Sayers suggests, 'By comparison with what was being achieved elsewhere this was not austerity'. Sayers also contends that it was only the threat of not being able to obtain supplies of mining equipment from the United States that 'finally shocked the Union government into a measure of import control'.⁵⁷

As is indicated above South Africa was reluctant to change its pre-war practice of keeping most of its official foreign exchange reserves in the form of gold rather than sterling. As an alternative method of obtaining South African gold it was agreed that South Africa would repatriate more of its British-owned debt. Accordingly the Bank of England undertook the vesting of South African debt. The Reserve Bank then exchanged gold for the debt and transferred the securities so acquired to the South African register. The union Treasury thereafter retired the debt out of the proceeds of loans raised in South Africa. By 1945 South Africa's external debt had been reduced by some £81.57m. to leave only £18.2m. still outstanding.⁵⁸

The raising of capital on the South African market to finance the repatriation of debt had the additional deflationary effect of reducing the rate of increase of the war-time supply of money.

G. de Kock has suggested that it was primarily to reduce inflationary pressures in the Union, 'that the Treasury and the Bank with the co-operation of the British authorities initiated their special war-time scheme of external debt repatriation and redemption'.⁵⁹ Clearly the co-operation of the British authorities, as Sayers subsequently interpreted, was not out of concern for South African inflation. After 1943, however, the Reserve Bank's stock of sterling increased considerably. This indicates that South Africa had been successfully persuaded to accept sterling bills in exchange for gold.

IV. WAR AND POST-WAR MONETARY CONDITIONS AND PROBLEMS

In 1942 a revised Bank Act became operative in South Africa. The provisions of the Act were to restrict considerably the freedom of the commercial banks to transfer their reserves freely between London and South Africa. By so doing therefore it tended to insulate the South African money market from London and therefore enhanced the potential ability of the South African Reserve Bank to control the domestic supply of money.

The provisions of the act required any commercial bank operating in South Africa to maintain in the Union:

- (1) Liquid assets amounting to not less than 30% of its liabilities to the public payable in the Union;
- (2) a minimum amount of paid-up capital and unimpaired reserve funds depending not only upon the number of its offices, branches or agencies in the Union but also upon the amount of its liabilities to the public payable in the Union and
- (3) an amount of assets (including claims payable in Union currency) sufficient at least to cover the whole (subsequently reduced to 95%) of its liabilities payable in Union currency and the minimum paid-up capital and reserve funds to be maintained in the union.⁶⁰

The Governor of the Reserve Bank, Dr M. H. de Kock, considered some of the effects of these provisions as follows:

The provision relating to liquid assets did not affect the banking position, as all the banks already held assets (defined

in the Act) considerably in excess of the statutory minimum; and since that time the lowest ratio has been 52·4% namely in July 1949.

The requirements concerning the maintenance of minimum paid-up capital and reserve funds in the Union and of a covered local position (including the former) did, however, have a bearing on the banking situation. The Standard Bank of South Africa Ltd. and Barclays Bank (Dominion, Colonial and Overseas), which are British-owned banks and which also operate in other parts of the world, normally held the whole of their capital and reserve funds at their head offices in London, although they used to draw on their London funds at times when their interests in the Union demanded it. The Netherlands Bank of South Africa, on the other hand, had transferred most of its own resources to the Union before the Banking Act was passed in 1942. The relevant provision of the new Act, therefore, also caused the Standard Bank and Barclays Bank to transfer a large part of their own resources to the Union. At the end of 1949 these two banks held in the Union £14,250,000 of their total paid-up capital and reserve funds of £25,000,000, i.e. 57%, which was also approximately the proportion of their total deposits which was held in the Union. The effect of the above-mentioned transfers was that the assets of the commercial banks in the Union and the foreign assets of the Reserve Bank came to be larger than they would otherwise have been.⁶¹

As has been suggested above, the links between the balance of payments and the money supply are direct. A favourable balance of payments leads to an expansion of the money base and, depending further on the preferences or requirements of the banks and public to hold cash to an expansion of the money supply. The effects, of course, are similar (but with the money supply decreasing) after an unfavourable balance of payments. Normally it would be expected that excess demand for foreign exchange would accompany excess demand generally. In such cases the decrease in the money supply would help attain both internal and external stability. Again, in the case of an excess supply of foreign exchange associated with excess supplies in other markets the expansion in the money supply and so

demand would help eliminate the excess supplies. Sometimes, however, the concern for both internal stability and external stability may not be so easily reconciled. The awkward cases are those of internal unemployment combined with a deficit in the balance of payments or a balance of payments surplus combined with internal inflation.

The obvious recourse in the first awkward situation is to devaluation. Devaluation, given the appropriate elasticity conditions, will increase the supply of foreign exchange and increase demand for domestic resources to replace imports and to satisfy export demand. Similarly a revaluation will reduce the excess supply of foreign exchange and reduce excess demand for domestic resources. When, however, a balance of payments deficit accompanies internal inflation devaluation can only aggravate the inflationary conditions which will rapidly eliminate the price advantages to exporters and import replacers of the devaluation. In these circumstances there is no feasible longer-term alternative to deflation unless controls on imports and capital outflows are used to repress the demand for foreign exchange. At the same time such controls, by reducing the supply of goods available to satisfy domestic demand and increasing the demand for them, tend to increase the rate of inflation.

As an alternative to devaluation the authorities may prefer to finance balance of payments deficits by appropriate manipulations of the interest rate structure. If the balance of payments current account surplus is not sufficient to finance the autonomous capital account outflow or the surplus on capital account does not compensate for the deficit on current account, then the authorities may be able to manipulate the interest rate structure to influence the capital account of the balance of payments in the appropriate direction. Similarly, to avoid an overall surplus on the balance of payments, interest rates could be reduced. At the same time monetary restraint would need to be combined with fiscal ease to prevent any sacrifice of internal employment through the effects on domestic demand of higher interest rates. Again fiscal restraint should accompany monetary ease to eliminate any excess demand. While balance of payments deficits may be financed in this way there is, however, no method of adjustment at work to eliminate the autonomous full

employment deficit or surplus. These will tend to be perpetuated. For this reason the post-war international monetary system has been described as the 'International Disequilibrium System'.⁶²

In practice, as Johnson has pointed out, the adjustment mechanism has worked in a reluctant way. The authorities have not been able to operate the fiscal-monetary policy mixture perfectly. Consequently the rate of inflation in deficit countries has tended to be slower than the rate of inflation in surplus countries.⁶³ In addition, for institutional reasons in most countries, including South Africa, the implementation of changes in the direction of fiscal policy is subject to much longer lags than monetary policy.

In South Africa, as in many countries after the war, government expenditure continued to increase.⁶⁴ Consequently the monetary authorities found themselves increasingly involved with the financing requirements of the public authorities and corporations. Moreover, the authorities were soon actively concerned with establishing the structure of rates of securities of different maturities and with stabilising the rate structure at preferred levels.

As will be indicated in some detail below, the South African balance of payments complicated debt management. At times the authorities were reluctant to face the implications of the balance of payments for interest rates. It was in this form that the conflict between internal and external stability was faced in South Africa.

The Governor of the Reserve Bank, Dr M. H. de Kock, reported in 1951 that the Reserve Bank holdings of government securities had risen from an average of £3,000,000 over the period 1946-8 to more than £15,000,000 by the end of 1949.

The large increase during 1949 was connected with open market operations conducted by the Bank in view of the sudden adverse turn in the internal financial situation and with the object of ensuring an orderly upward adjustment of market rates as well as establishing a more appropriate pattern of rates of varying maturities. In this manner a new level of rates was reached which offered a prospect of relative stability being maintained for some time.⁶⁵

In similar vein the governor reported in 1953 that:

a great deal of uncertainty existed as to the future course of interest rates in the Union, due not only to the persistence of the upward trend in such rates but also to the growing consciousness of a scarcity of capital relative to the demand in the Union, as well as in the world in general. This state of uncertainty resulted in the withholding of funds from investment in long term loans with a fixed interest rate, as the lending institutions had been affected by the substantial depreciation which had already taken place in the market value of their holdings of fixed interest securities and could not view with equanimity the possible continuance of this process. In these circumstances, public bodies were experiencing difficulties in raising the funds urgently required by them for their most essential capital projects, even at the higher level of interest rates.

In order, therefore, to attain stability in the gilt-edged market and improve the environment for investment in new public issues, the Reserve Bank proposed to the Treasury that a pattern of rates for the various maturities of Government, municipal and public utility securities, which could be justified from the viewpoint of both the lenders and the borrowers, be laid down as a basis to be maintained by official policy and action as long as the existing conditions continued. The Treasury approved. . . .⁶⁶

V. THE BEGINNING OF THE SHORT-TERM MONEY MARKET 1949

To reduce the direct dependence of the Treasury on the Reserve Bank the authorities established the National Finance Corporation (N.F.C.) in 1949. The N.F.C. was to accept call money and convert this into Union Treasury Bills.⁶⁷ The ability to repay calls on demand was safeguarded by lender of last resort facilities provided by the Reserve Bank. The establishment of the N.F.C. was a major step in the encouragement of a South African short-term money market. The development of the market was planned consciously after the pattern of the London money market. The N.F.C. and later the private dis-

count houses make a market in short money, standing between the commercial banks and the Reserve Bank. The Reserve Bank accordingly discounts eligible assets for the money market rather than directly for the commercial banks. Again, as in London, Treasury Bills came to be put out for tender and the discount houses bid for bills as a cartel. The N.F.C. has not, however, withered away, as was considered likely with the development of privately owned discount houses. It remains the side door of the Reserve Bank accepting all monies and deposits (at rates slightly below the private market) and is obviously useful to the Reserve Bank in its debt management role. With the development of a market in short money, the flow of capital to and from South Africa became vulnerable to changes in interest rates differentials and changes in interest rates could now be required for balance of payments stability.

Sometimes, as in 1950 and 1951, the authorities wanted to prevent interest rates from falling in response to a favourable balance of payments.

During the rest of 1950, 1951 interest rates remained relatively stable at the new higher levels, despite a temporary accumulation of short-term funds. The higher rates were maintained 'because there was reason to believe that the plethora of short-term money was a temporary phenomenon, and because it was considered to be sound policy, in the circumstances, not to disturb the rates which constitute the foundation of the general structure of money rates, but rather to continue absorbing the surplus funds and sterilizing them for the time being,' through the carrying of large credit balances by the Government and the N.F.C.⁶⁸

More often it would be to prevent interest rates from rising, when the balance of payments turned unfavourable. The mechanism adopted to reconcile the balance of payments with internal stability (particularly of interest rates) was direct controls of the balance of payments itself. Firstly import controls were reimposed in 1948 on imports from hard currency areas. Then, when the South African balance as a whole was in deficit in 1949, controls were imposed on imports from the sterling area as well. The immediate post-war conditions were complicated by excess demands for dollars on current account

and excess supplies of sterling on capital account. However, sterling so acquired was still subject to sterling area controls.⁶⁹ South Africa was not able to withdraw dollars from the dollar pool in greater quantities than her contributions to it in the form of gold. In 1949 South Africa responded to the British devaluation by immediately devaluing in the same proportion.

In 1956 and 1957 import controls proved insufficient for the purpose of limiting the demand for foregoing exchange. The authorities preferred to extend exchange controls to movements of resident capital within the sterling areas than to raise interest rates. In 1961 exchange controls came to be extended to outflows of non-resident capital.⁷⁰ The authorities at this stage acquired and would retain direct control of the demand for foreign exchange. Through the combination of import and capital controls the authorities were now able to prevent South Africa's gold and foreign exchange reserves falling below any level considered necessary. They had no equivalent controls over the supply of foreign exchange. In this way monetary policy had become potentially independent of an unfavourable balance of payments. This is, of course, not to gainsay the influence of such controls on the attractions of South Africa for foreign lenders nor of the importance for future South African economic development of access to foreign capital. Nor is it meant to deny the importance of the more general issue of economic freedom.

The monetary authorities therefore did not have to rely on neutralising open market operations to break the link between an unfavourable balance of payments and the domestic supply. However, it should be pointed out that the scope for such operations by the Reserve Bank remained limited.

A 'broad, deep and resilient' secondary market in government stock has not developed in South Africa.⁷¹ Consequently the Reserve Bank or its agent has had no market in which to deal actively. Instead the Reserve Bank maintains a pattern of rates for government stock of different maturities at which it is prepared to buy and sell. 'As the Reserve Bank is prepared to buy and sell government stock at the quoted rates, other transactions in the market for government stock are necessarily concluded at approximately the same rates. . . .'⁷² In addition such Reserve Bank support for the market has itself precluded

any opportunities for specialist brokerage. Consequently the market has continued to lack depth and resilience. As a supplement or alternative to Reserve Bank control of the cash base the Treasury has scope to influence the cash base of the system for control purposes. Increases in the Treasury balances with the Reserve Bank naturally reduce the deposits of the commercial banks with the Reserve Bank and vice versa for a decrease in the Treasury balance. In 1961 the Treasury, for stabilisation purposes under the General Loans Act of 1961, was permitted to borrow up to R60m. without authorisation from Parliament. In 1964 these powers were considerably extended. An amendment to the Act permitted 'the government to borrow such amounts as the Minister of Finance, after consultation with the South African Reserve Bank, may deem to be necessary for the purpose of the proper regulation of internal monetary conditions'. The proceeds of such borrowing go to a special stabilisation account with the Reserve Bank.⁷³

It will perhaps be instructive to consider in greater detail the background of economic conditions in 1956-7 and 1961. Conditions of '... full or even over full employment'⁷⁴ prevailed in South Africa in 1955. The balance of payments was in deficit but not unexpectedly so, as import controls had been relaxed the previous year. Furthermore, the balance of payments deficit for the first half of 1956 was £15,000,000 compared with £27,000,000 for the same period the previous year. In response to movements of interest rates in London, South African rates had been adjusted upwards in March 1955 and again in September of that year. Credit conditions generally remained tight and further adjustments in the Reserve Bank's pattern of rates for dealing in government stocks as well as increases in fixed deposits and savings account rates were made in 1956.⁷⁵

The basic rate adjustments which were arrived at on 15th February with effect from the 17th, it had confidently been anticipated, would be the last likely to be called for on the part of the Union, for some time at least, in the absence of any unforeseen contingencies. The very next day, however, such a contingency arose when the Bank of England rate was unexpectedly increased from $4\frac{1}{2}\%$ to $5\frac{1}{2}\%$. As a result of this large increase and the consequential increases in the other

London market rates, therefore, the stimulus to an appreciable further outflow of private capital and the retention of South African funds in London to take advantage of the discrepancy in interest rates, increased.⁷⁶

Further adjustments in local interest rates had become necessary. These the Reserve Bank were reluctant to make.

In arriving at a decision in the matter, however, the prevailing economic and financial conditions in the Union could not be ignored. Considered from this aspect, a further upward adjustment did not appear to be desirable since the local inflationary pressure was tending to subside and the Union's economic activity in general was assuming sounder proportions without the new interest rate adjustments, just announced, having had their effect as yet.

In the circumstances, it was decided not to take a step which might detrimentally affect the economy of the Union, but rather to exercise some control over the movement of funds belonging to Union residents. The position at the time in this regard was that the international movement of all funds belonging to Union residents was subject to Exchange Control, but that the funds belonging to non-residents, as well as interest or profits accruing therefrom, could freely be repatriated to their country of origin. In contrast with certain other Sterling Area countries, however, the unrestricted movement of Union funds within that Area had been permitted by way of an administrative exemption, so that all that was called for was to revoke this existing administrative exemption.⁷⁷

The decision would not appear to have been justifiable in terms of the domestic economic situation. The same report emphasises the prevalence of inflationary conditions. Even if these were not expected to continue it could hardly have been thought likely that a further marginal increase in interest rate patterns would have in themselves caused a recession. It should also have been possible for the authorities to have offset the deflationary impact of a more restrictive monetary policy with more expansionary fiscal policy. The impression is rather of a step lightly taken to avoid the inconvenience to the gilt-edged market of a farther

change in interest rates, the level of these rates being considered less important than their stability. No further controls were imposed on the purchase or sale of South African shares quoted on the London Stock Exchange.

VI. THE 'CONFIDENCE' RECESSION 1960-3 AND MONETARY POLICY SINCE

The situation in 1960-1 was very different. Investment confidence in South Africa generally had suffered heavily from racial disturbances in 1960. This led to a decline of investment spending and a considerable outflow of capital.

The substantial deficit on the balance of payments and the rapidly declining monetary reserves of the country had to be taken into account if the external value of the Rand was to be preserved, that is, if devaluation was to be avoided. Thus, whereas the internal situation required an expansionist monetary policy, the external situation called for restraint. This dilemma posed a problem for the authorities which was very different from the more usual one of general inflationary overspending resulting in both rising prices and a deficit in the balance of payments.⁷⁸

The Reserve Bank, by acting as a lender of last resort, attempted to neutralise the influence of the outflow of capital on the domestic financial situation. Fed no doubt by such accommodation, the outflow of capital continued. The rapid decrease in the reserves stimulated further capital outflows in expectation of devaluation. The authorities appeared to accept the inevitability of deflation for the sake of the balance of payments:

But as the year progressed and the financial position continued to deteriorate, the monetary authorities were forced to take further measures. Not only had the hope that the capital outflow would subside not been fulfilled, but the continued decline in the reserves to a relatively low level was in itself giving rise to devaluation rumours and thereby creating conditions likely to aggravate the capital outflow. Moreover, the outlook for the capital account of the balance of payments was clouded by the knowledge that considerable repayments

of official and private loans would have to be made in 1961 and 1962, which might not be fully covered by renewals or new loans. A high priority, therefore, had to be given to the achievement and maintenance of a large surplus on current account, and since there was a definite limit to the extent that the rate of growth of output could be expected to rise in the short run, there appeared to be no alternative but to allow and, if necessary, to induce the rate of increase of total spending to decline somewhat.⁷⁹

After import controls had been tightened and additional customs duties imposed the final resort was to a stricter application and further extension of exchange controls:

The main features of the new measures were the following: In the first place South African residents were prohibited from transferring funds to London or Bulawayo for the purchase of South African and Rhodesian securities. Secondly, while non-residents were still permitted to sell shares on the Johannesburg Stock Exchange, the proceeds of such sales were to be blocked and could be re-invested only in securities quoted on the Johannesburg Stock Exchange and, in the case of government, municipal and public utility stock, only in securities with a maturity exceeding five years. Thirdly, capital transfers by foreign subsidiaries and branches in South Africa were to be scrutinised more carefully and the banks were requested not to grant credit to such subsidiaries and branches in order to allow them to remit funds abroad. Finally, residents were required to render returns of all their foreign assets, as were also residents who held balances abroad or who had acquired assets abroad in contravention of the existing regulations, provided such balances or the proceeds of each assets were transferred to South Africa within thirty days.⁸⁰

These measures were entirely successful in restraining the loss of reserves. The exchange controls first applied in 1961 have been retained with the severity of their application varied at the discretion of the authorities. The permitted volume of imports altered as in the fifties, according to the state of the balance of

payments in general and the internal level of demand. Import controls have had the additional effect of supplementing protective tariffs.

In terms of Article XII of the General Agreement of Tariffs and Trade import controls may only be applied for balance of payments reasons. Very recently the South African Government has decided not to invoke Article XII after the usual consultation with the International Monetary Fund on the 'grounds of the increase in the Republic's monetary reserves and the generally favourable trend of its balance of payments'. Since import controls can apparently not be relied upon to give protection the authorities now propose to seek a 'general revision of its tariff commitments under the General Agreement on Tariffs and Trade'.⁸¹ It should be noted that all restrictive devices designed to protect balance of payments deficits accruing have a tariff equivalent at each point in time. However, the effects of the tariff or other alternatives are not similar in all respects. Tariffs are a property right of the government. The licence (permit) to import bestows that property right to the receiver of the licence.⁸²

The authorities have not used their freedom from the balance of payments constraint to exercise control over the money supply. Rather the main instrument of monetary policy has remained the stabilisation of the interest rate structure. Accordingly the money supply itself has responded passively to levels consistent with the maintained structure. Any tendency towards excess supplies of government securities on the capital market is eliminated by Reserve Bank dealing at the established rates. The Reserve Bank, of course, exchanges its own liabilities (cash) for government securities. Correspondingly by preventing interest rates from rising, the Bank sacrifices control of the money supply.

The apparent lack of concern for the money supply itself was supported by the Report of the Technical Committee on Banking and Building Society Legislation in 1964. The 1965 Bank Act⁸³ in turn followed closely the recommendations of this report. The report owed much to the work of the Radcliffe Committee. The Select Committee also acknowledged the influence of Gurley and Shaw. Gurley and Shaw had suggested the implications for monetary policy of the activities of other

financial intermediaries in addition to commercial banks. The Radcliffe Report emphasised the key role of liquidity in the economy. As the Technical Committee's Report itself puts it,

Despite certain differences among themselves, the Radcliffe Committee, Gurley and Shaw, and various other writers on this subject have found common ground in suggesting that the orthodox approach to these matters with its emphasis upon the 'money supply' and the unique position of commercial banks as creators of credit, be completely scrapped and a new revolutionary approach adopted. The Radcliffe Committee, for example, although recognising the clearing banks in the United Kingdom as 'key leaders in the system' did not consider their role as 'creators of money' very important and, indeed, attached little significance to the concepts 'money' and 'velocity of circulation'. Instead, they preferred to emphasise the 'state of liquidity of the whole economy' which they related to the 'ease or difficulty encountered by spenders in their efforts to raise money for the purpose of spending on goods and services'.⁸⁴

The Technical Committee did not go as far as Radcliffe. The committee considered that there was much that was extremely useful in the orthodox approach and that it should not be scrapped but merely 'modernised and adapted to the changed circumstances'. More specifically, as indicated earlier, the committee believed that the answer was to work with a concept of 'money plus near-money' instead of just 'money' and to recognise certain deposit-taking institutions as 'near money creating banks' and to treat them accordingly. The committee argued, moreover, that 'near-money' should, however, not be too broadly defined, as it would then lose its value as a concept in monetary analysis and policy.

The committee suggested that near money should be defined as liquid assets in the hands of the private sector which can, in fact, be monetised conveniently, speedily, without significant loss and 'en masse', which is, of course, a much narrower concept than the Radcliffe Report's 'the state of liquidity of the whole economy'. These views were given operational content in the 1965 Bank Act by the extension of compulsory reserve and liquid asset requirements to the so-called 'near banks'.⁸⁵

The justification for measures restricting the portfolio freedom of financial institutions must rest on an assumption made about the instability of the demand for money by certain economic sectors. An unstable demand position is an unpredictable one, i.e. it cannot be predicted on the basis of the past demand what future demand is likely to be in response to changes in the variables influencing that demand. If the demand for money is unstable changes in the supply of money will not have a predictable effect on economic behaviour. Therefore the influence of changes in the supply of money becomes unreliable as a policy instrument and even possibly destabilising.

If the demand for money is stable then the authorities' ability to control the money supply through their direct control of the cash base of the system gives a predictable influence on spending and lending everywhere in the economy. For money above all is widely held. Clearly it need not be argued that the demand for money, or its inverse the velocity of circulation, are constants, but, rather that it responds predictably to changes in the variables influencing velocity. Included amongst these influences are the rates of return on assets alternative to money in portfolios. While velocity of circulation may be expected to increase with increases in interest rates, if this were predictable, the monetary authorities in altering the supply of money would allow for some elasticity in the credit structure.

The issue is essentially an empirical one. The Radcliffe Committee believed that effectively velocity was infinite though it provided no empirical investigations to justify this assertion. More recent econometric investigations of the demand for money functions would appear to prove the stability of the demand for money.⁸⁶ It is much more difficult to prove econometrically whether the direction of influence is from changes in the money supply to changes in income or vice versa.⁸⁷

Minimum liquid assets ratios are not an effective alternative to the cash ratio as a method of controlling the money supply. The fundamental reason for this, as Newlyn has established, is that the authorities do not in fact control the supply of liquid assets. They can, however, control the cash base of the monetary system.⁸⁸

Liquid assets are not, of course, idle. Unlike reserves of outside money proper, i.e. Reserve Bank liabilities backed by gold and foreign assets, liquid assets are issued to finance spending, usually government spending. As the government spends the proceeds of sales of liquid assets, incomes and deposits expand in the usual way. However, compulsory liquid and other asset requirements do have considerable advantages for debt management. They compel lending to the public sector. If required lending is greater than preferred lending the state will have been able to borrow at below the competitive market rates. At the same time the private sector will have to pay more for a restricted supply of funds.⁸⁹

The commandeering of funds in this way has not enabled the authorities to avoid some reliance on money creation as alternative to raising interest rates. Particularly in the period 1965-7 South Africa relied on round-about money creation through the discount market. To serve the demand for Treasury bills and short-term bonds the Reserve Bank allowed the Discount Houses and the N.F.C. permanent access to its lender of last resort facilities. Presumably this was lending at market rates as a considerable proportion of the discount markets' resources came from the Reserve Bank.⁹⁰

Money created to stabilise interest rates at historically high but artificially low rates has spilled over into the commodities markets and into freer sectors of the financial markets. Inflationary expectations have further tended to reduce the demand for fixed interest-bearing stock. Given the continuously buoyant demand for all capital in South Africa since about 1963 the authorities have been under consistent pressure to raise the interest rate structure on government stock. This has been despite a rapid rate of increase in the money supply.⁹¹

In 1968 the source of the increase in the money base was mainly the capital account of the balance of payments, the net capital inflow for that year being estimated at some R446m.⁹²

Using the powers vested in it, the Treasury partially neutralised the increase in foreign exchange reserves on the money base by building up its stabilisation account balance with the Reserve Bank.⁹³ However, the Treasury's sensitivity to higher interest rates prevented carrying the policy to the full extent necessary to avoid an inflationary increase in the money base. In 1969 the

authorities made foreign exchange available for certain financial institutions for the purpose of portfolio investment abroad. The willingness to loosen the foreign exchange tap had been undermined by the uncertainties relating to the disposal of South African gold after the abandonment of the gold Pool arrangements in March 1968. South Africa was unwilling to lose the bargaining counter of a high 'free market' gold price through its own sales of gold.⁹⁴

In addition to their compulsory liquid assets and other ratios the authorities have also come to rely on direct controls of the volume of commercial bank and other banks' lending to the private sector. These controls have been applied continuously since 1965. The volume of permissible lending has been varied at the discretion of the authorities about the March 1965 level. The effect has been to restrain the natural competitive evolution of the financial structure. As has been indicated, it has not restrained the growth of the money supply itself. The funds the banks have not been allowed to lend to the private sector have been used instead to finance public spending. However, the expanded supply of deposits has facilitated so-called greymarket lending within the private sector by firms and individuals unaffected by the credit controls.

In his Budget address of August 1970 the Minister of Finance indicated that interest rates were expected to increase. The reason appeared to be that the Treasury had not been entirely successful in its borrowing programmes. Rather than having to make inflationary use of the Treasury balances with the Reserve Bank the authorities seemed willing to offer more attractive returns on government stock. At the same time certain privileged kinds of borrowers were to be protected by subsidies from the effect of higher interest rates on farm and house mortgage bonds.

This may indicate a new departure for monetary policy in South Africa. The principle of paying subsidies to persons considered worthy as an alternative to keeping down the entire interest rate structure to achieve essentially the same purpose may become the means to facilitate control of the money supply.

NOTES

1. On the early development of the South African banking structure see E. H. D. Arndt, 'Banking and Currency in South Africa 1652-1927', *Juta* (1928) (2nd ed. rev. 19); C. S. Richards, 'Currency in South Africa before Union', Appendix 18. *Report on the Resumption of Gold Payments*, by Edwin Walter Kemmerer and Gerard Vissering. U.G. no. 13, 1925. Hereafter referred to as the Kemmerer-Vissering Report. J. A. Henry, *The First Hundred Years of the Standard Bank* (Oxford, 1963). E. H. D. Arndt and C. S. Richards, 'The Banking System in South Africa', in *Foreign Banking Systems*, ed. H. Parker Willis and B. H. Beckart (New York, 1929).
2. David Williams, 'The Evolution of the Sterling System', *Essays in Money and Banking in Honour of R. S. Sayers*, ed. C. R. Whittlesey and J. S. G. Wilson (Oxford, 1968), p. 276.
3. S. Herbert Frankel, *Capital Investment in Africa* (Oxford, 1938), p. 64, note 1.
4. Williams, 'Evolution', p. 275.
5. *Ibid.*, p. 280.
6. Questions 2043-54, *Kemmerer-Vissering Report*, pp. 211-12.
7. The success of the Standard Bank and the relative failure of the first of the Imperial banks, The London and South African Bank, have been attributed, in part, to the different reactions of the two banks to the opportunities presented by the diamond discoveries. The Standard Bank was active in Klipdrift, the scene of the first discoveries, by 1870. The London and South African Bank, perhaps restrained by a too heavy hand from London head office, stood aloof. The London and South African Bank went into liquidation in 1877. Its assets were sold to the Standard Bank and the liquidation earned a surplus of assets over liabilities of £95,000. Cf. Henry, *First Hundred Years*, ch. 4 and Arndt and Richards, 'Banking System', p. 279.
8. Cf. Michael Richard Graham, *The Gold-Mining Finance System in South Africa, With Special Reference to the Financing of the Orange Free State Gold-fields up to 1960*, unpublished Ph.D. Thesis, University of London (1964), ch. 2.
9. Graham, *ibid.*, pp. 67-8. See especially ch. 3.
10. The Debt of the Cape Colonial Government grew from £6.493m., in 1878 to some £39.379m. in 1904. Cf. the Hon. J. X. Merriman, 'The Balance of Trade of South Africa', *Journal of the Institute of Bankers in S.A.*, II, 1905-6, p. 35. For details of a pre-Union expansion of the railway network see C. G. W. Schumann, *Structural Change and Business Cycles in South Africa 1806-1936* (Staples Press, 1938), p. 53.
11. Cf. Tibor Scitovsky, *Money and the Balance of Payments* (Unwin University Books, 1969), esp. ch. 8.
12. *Kemmerer-Vissering Report*, p. 133. Reply by Mr John Paul Gibson of the Standard Bank to question no. 2286.

13. Cf. D. E. Moggridge, *The Return to Gold, 1925. The Formulation of Economic Policy and its Critics* (Cambridge, 1969), esp. ch. 1.
14. Cf. Gerhard de Kock, *A History of the South African Reserve Bank (1920-1952)* (Pretoria, 1954), esp. ch. 1. Also Moggridge, op. cit., ch. 1 and Sir Henry Clay, *Lord Norman* (London, 1957). For the volume of gold imports over the period see *Union of South Africa, Report of the Select Committee on Embargo on Export of Specie* (S.C. 2 1920), Appendix, p. 111.
15. de Kock, *ibid.*, p. 11, quoting from *Report of Gold Conference* (U.G. 18 of 1920, p. 1).
16. de Kock, *ibid.*, p. 13.
17. S.C. 2 1920, *ibid.*, p. (iii). Also de Kock, *History of the South African Reserve Bank*, p. 14.
18. *Ibid.*, p. (xxxvii), para. 12.
19. *Ibid.*, para. 18.
20. de Kock, *ibid.*, p. 23, quoting the preamble to The Currency and Banking Act No. 31 of 1920.
21. The Select Committee's report was criticised by Cannan and Richards for not seeing the problem in this way. Richards quotes Cannan as follows: 'Side-tracked and confused by all this, the committee never seriously considered the real practical issue which should have been put to it; whether it was best for South Africa to keep her currency level with gold, or level with the British paper pound.' C. S. Richards (op. cit.), p. 540. Cf. Edwin Cannan, Review of S.C. 2 1920. *Economic Journal*, xxv 519-30.
22. *Kemmerer-Vissering Report*. Questions 3172-86, pp. 329-30.
23. Gerhard de Kock has discussed very carefully the steps by which the constitution of the Reserve Bank was relieved to enable it greater portfolio flexibility. The last serious impediments to such flexibility were removed by the South African Reserve Bank Act No. 29 of 1944. However, the absence of a well-developed secondary market in government securities inhibited and still inhibits orthodox open-market operations in South Africa. Cf. de Kock, *History*, pp. 279-84.
24. Cf. Evidence of Mr George Robb Paterson of the National Bank. *Kemmerer-Vissering Report*, Questions 4139-64, pp. 432-4.
25. Cf. de Kock, *History*, p. 107.
26. Cf. Robert A. Mundell, *International Economics* (New York, 1968), ch. 18. 'Capital Mobility and Stabilization Policy under Fixed and Flexible Exchange Rates', adapted from *Canadian Journal of Economics and Political Science*, xxix 475-85 (Nov. 1963).
27. Frankel, *Capital Investment*, p. 76.
28. See *Kemmerer-Vissering Report*, Annexure 5.
29. Cf. Evidence of commercial bank representatives to the Kemmerer-Vissering Commission and also to the Select Committee on the Gold Standard. S.C. 9 of 1932.
30. *Kemmerer-Vissering Report* Statement submitted by Mr J. P. Gibson. Appendix 14, p. 515.
31. Cf. *Kemmerer-Vissering Report*, pp. 208-10. Requested to do so by Commissioners Kemmerer and Vissering, the bankers revealed details of the

London reserves for 1923-4 only with great reluctance (cf. *Kemmerer-Vissering Report*, p. 210). It is the absence of statistics on the London reserves of banks operating in South Africa that makes any attempt to measure monetary cause and effect on the South African business cycle rather fruitless. This observation would appear valid up until the final centralisation of the South African foreign exchange reserves after 1942. (See below, pp. 22 and 26.) A comparison for 1923-4 can be made for the commercial banks' cash reserves in South Africa (column 1), their reserves in London (column 2) and the Reserve Bank's gold and foreign assets (column 3).

	(£'000)		
	(1)	(2)	(3)
1923			
March	9,191	12,699	11,074
June	11,559	9,730	13,804
Sept.	9,274	10,777	12,460
Dec.	9,467	13,125	13,900
1924			
March	9,023	16,594	13,667
June	9,540	14,000	12,769
Sept.	8,681	11,607	12,792
Dec.	8,843	11,363	13,396

Sources: *Kemmerer-Vissering Report*, Appendixes 14 and 19, pp. 520 and 547. South African Reserve Bank *Quarterly Bulletin of Statistics*, no. 2 (Dec. 1946).

32. de Kock, *History*, 62 quoting Reserve Bank Governor Clegg to Select Committee 1A of 1923, Minutes of Evidence, p. 40.
33. de Kock, *History*, pp. 62-4.
34. The terms of reference of the Kemmerer-Vissering Commission.
35. *Kemmerer-Vissering Report*, para. 11, p. xi.
36. *Ibid.*, para. 16.
37. *Ibid.*, para. 20.
38. *Ibid.*, para. 21.
39. See particularly the Commissioners' examination of Professor R. A. Lehfeldt, *Kemmerer-Vissering Report*, pp. 439-64.
40. Cf. Robert A. Mundell, *International Economics*, ch. 12. 'A Theory of Optimum Currency Areas', adapted from the *American Economic Review*, LI (Nov. 1961). Also R. I. McKinnon, 'Optimum Currency Areas', *American Economic Review*, LIII (1963) and Delbert A. Snider, 'Optimum Adjustment Processes and Currency Areas', *Essays in International Finance No. 62* (Oct. 1967). International Finance Section, Princeton University.
41. Cf. S.C. 9 1932, *ibid.*
42. Cf. de Kock, *History*, p. 84.
43. Cf. *ibid.*, p. 86.
44. Cf. *ibid.*, p. 86.
45. Cf. S.C. 9 of 1932, *ibid.*, esp. paras 11-19.
46. Cf. de Kock, *ibid.* See also the sharp exchange between the Select Com-

mittee and the representative of the Standard Bank. S.C. 9 of 1932, *ibid.*, pp. 613-38.

47. Cf. de Kock, *ibid.*, pp. 183-4. Also *Quarterly Bulletin of Statistics*, South African Reserve Bank, no. 1 (Sept. 1946).

48.

Year end	Commercial Bank	Reserve Bank
	Demand Deposits	Gold and Foreign
	+ Reserve Bank Notes	Assets
	(£m.)	(£m.)
1929	40.753	14.373
1930	37.181	14.359
1931	33.798	8.145
1932	32.028	7.499

Source: *Quarterly Bulletin of Statistics*, South African Reserve Bank, nos 1 and 2 (1946). Cf. A. I. Bloomfield, 'Rules of the Game' of International Adjustment', in *Essays in Honour of R. S. Sayers*, pp. 26-46.

49. The current account surplus including gold output increased from £0.6m. in 1931 to £20.5m. in 1932. Merchandise imports had decreased from £53m. to £32.8m., while gold output increased slightly from £46.2m. in 1931 to £49.8m. in 1932. Source: de Kock, *ibid.*, Table 10, p. 149.

50. Cf. de Kock, *ibid.*, ch. 10.

51. de Kock, *ibid.*, p. 193, quoting the *South African Reserve Bank Annual Report* (1933), p. 4.

52. *Ibid.*, p. 195, quoting Currency and Exchanges Act, No. 9 of 1933.

53. Cf. *ibid.*, pp. 193-5.

54.

Year end	Commercial Bank Demand Deposits + Reserve Bank Note issue	Reserve Bank Gold and Foreign Assets
	(£m.)	(£m.)
1933	64.928	40.085
1934	69.216	41.892
1935	76.800	48.777
1936	88.669	46.272
1937	84.112	39.551
1938	94.286	46.765
1939	96.996	53.442

Between 1934 and 1937 the South African Treasury took advantage of cheap money in South Africa to borrow for the purposes of repatriating British-owned South African government debt.

Cf. *ibid.*, p. 233. Source: *Quarterly Bulletin*, South African Reserve Bank, nos 1 and 2 (1946).

55. R. S. Sayers, *Financial Policy, 1939-1945* (Her Majesty's Stationery Office and Longmans, Green and Co., 1956), p. 307.

56. de Kock, *op. cit.*, p. 239.
57. R. S. Sayers, pp. 313 and 312.
58. Cf. R. S. Sayers, ch. x.
59. de Kock, *History*, p. 273.
60. M. H. de Kock, 'Banking Developments in the Union (1929-1949)', *The South African Bankers Journal* XLVII, no. 12 (March 1951), p. 469.
61. M. H. de Kock, 'Banking Developments', p. 469.
62. Cf. Mundell, *International Economics*, ch. 15. The International Disequilibrium System adapted from *Kyklos* 14 (1961), pp. 154-72. Also H. G. Johnson, 'Theoretical Problems of the International Monetary System', *Pakistan Development Review*, VII 1-28. Reprinted *Penguin Modern Economics, International Finance*, ed. R. N. Cooper, pp. 304-34.
63. H. G. Johnson, *op. cit.*
64. L. H. Samuels, 'The Gilt-Edged Market in South Africa', *South African Journal of Economics*, XXI (1953). This reports the increase in the South African Public Debt as £2.1m. for the six-year period 1933-9; £43.4m. for 1940-6; and £37.1m. for 1947-53 (Table 1, p. 102).
65. M. H. de Kock, 'Banking Developments', p. 464.
66. South African Reserve Bank *Annual Report* (1953), pp. 5 and 6. The Governor of the Reserve Bank told the Radcliffe Committee in 1958 that in South Africa: . . . 'Open market operation have neither been employed to bring about cheap money conditions nor in a positively disinflationary manner, but have been used mainly to ensure orderly adjustments and reasonable stability in the pattern of interest rates in the light of the prevailing economic condition. . . .' Principal memoranda of Evidence submitted by the Governor of the South African Reserve Bank to the Committee on the Working of the Monetary system, I, para. 16, 287.
67. M. H. de Kock, 'Banking Developments'.
68. South African Reserve Bank *Annual Report* (1950-1), p. 10.
69. Cf. M. H. de Kock, 'Banking Developments' and the relevant annual reports of the South African Reserve Bank, also Gerhard de Kock, *History*, ch. 17.
70. See below, p. 89.
71. This was the expression used in the 'Bills only' controversy in the United States to describe the qualities expected of a well-developed market in financial securities. Essentially such a market has depth when there are potentially many buyers and sellers at prices below and above ruling market prices. Breadth indicates that these buyers come from different investor groups. The market is resilient when buying and selling orders respond promptly to take advantage of unexpected fluctuations in prices. On recent developments of the market in government securities in South Africa, see C. J. de Swardt and G. Steenkamp, 'An Analysis of the South African Public Debt', *Quarterly Bulletin of Statistics*, South African Reserve Bank (Sept. 1969).
72. *Ibid.*, p. 22.
73. Cf. *ibid.*, pp. 28-9.
74. South African Reserve Bank, *Annual Report*, p. 9 (1956).

75. Ibid., p. 12 (1956).
76. Ibid. (1956).
77. Ibid. (1956).
78. South African Reserve Bank, *Economic Report*, p. 20 (1961).
79. Ibid., p. 22 (1961).
80. Ibid., p. 26 (1961).
81. 'Import Controls and Tariff Protection', Press release issued by the Minister of Economic Affairs, *Quarterly Bulletin of Statistics*, South African Reserve Bank (March 1970), p. 22.
82. Cf. Anne O. Krueger, 'Balance of Payments Theory', *Journal of Economic Literature*, VII, no. 1 (March 1969), pp. 15-16.
83. Act to consolidate the law relating to Banking Institutions, No. 23, 1965.
84. Report of the Technical Committee on Banking and Building Society Legislation RP/50/1964, p. 11, para. 36-8. This discussion of the Technical Committee Report owes much to W. D. Eliasov.
85. See especially the nature of the 'banking institutions' to which the provisions of the act are applied (ch. 1, §2, etc.) and the liquid assets requirements (ch. 4, §17).
86. Cf., *inter alia*, Lawrence Harris, 'Regularities and Irregularities in Monetary Economics', *Essays in Honour of R. S. Sayers*, pp. 85-112.
87. Cf. Albert Ando and Franco Modigliani, 'The Relative Stability of Monetary Velocity and the Investment Multiplier', *American Economic Review*, LV (1965), pp. 693-728. See also the reply by Milton Friedman and David Meiselman, pp. 753-85.
88. W. T. Newlyn, *The Theory of Money* (Oxford, 1962). Also his 'The Supply of Money and its Control', *Economic Journal* (June 1964). Also Brian Kantor, 'The Money Supply and the Inflationary Process', *South African Journal of Economics*, xxxvi (Dec. 1968).
89. Cf. J. de V. Graaff, 'The National Debt', *The South African Journal of Economics*, xxxvii (Sept. 1969), pp. 179-86.
90. Cf. Kantor, 'Money Supply', Table 2.
91. The money or cash base of the financial system can be taken to be the Reserve Bank's note issue and its deposit liabilities held by the private sector of the economy, i.e.

$$MB = F + D^1 + D^2 + A + OM.$$

This essentially represents the balance sheet identity of the Reserve Bank. *MB* is the money base, *F* the Reserve Bank's stock of gold and foreign exchange reserves, *D*¹ represents Reserve Bank discounts and advances to the N.F.C., Discount Houses, Commercial and Merchant Banks, *D*² represents discounts and advances to the Central Government, Provincial Administrations, the Land Bank and 'other' discounts. *A* are 'other' assets of the Reserve Bank. *OM* represents the Reserve Bank's net open market position, i.e. the difference (either positive or negative) between the Reserve Bank's holdings of government securities less the Public Sector balances. Changes in the Reserve Bank's stock of assets cause changes in its liabilities (the money base). Cf. Kantor, 'Money Supply', esp. pp. 321-4.

The growth of the money base for the period 1965-9 has been estimated as follows (as a three-month moving average):

	<i>MB (R millions)</i>	<i>Growth (%)</i>
End 1965	528.5	
1966	607.7	15.9
1967	623.0	1.8
1968	738.0	18.4
1969	792.2	8.7

The growth in the stock of commercial bank demand deposits plus the Reserve Bank note issue for the same period has been as follows:

	<i>MB (R millions)</i>	<i>Growth (%)</i>
End 1965	1,363.0	
1966	1,523.9	11.8
1967	1,596.4	4.8
1968	1,906.6	19.4
1969	2,128.0	11.6

Source: Quarterly Bulletins, South African Reserve Bank.

92. *Quarterly Bulletin*, South African Reserve Bank (March 1970). Balance of Payments Statistics S-50.
93. The Exchequer and Paymaster General Accounts with the Reserve Bank 'increased steadily' from R91m. at the end of March 1966 to R715m. by Feb. 1969. C. J. de Swardt and G. Steenkamp, 'An Analysis', p. 28.
94. Cf. 'Arrangements Regarding the Marketing of South African Gold', *Quarterly Bulletin*, South African Reserve Bank (Sept. 1969), pp. 19-20. Also Brian Kantor, 'The Gold Agreement and the Future of Gold', *The South African Banker*, LXVII, no. 1 (Feb. 1970).

4 South Africa's Salvation in Classic Liberalism

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THE purpose of this essay is to show that superficially intractable problems of colour and race in the Republic of South Africa are capable of peaceful solution if certain crucial political principles, recently termed 'classic' or 'right' liberalism,¹ are recognised. We do not assert dogmatically that a peaceful solution is unobtainable without the adoption of the particular proposals (mainly of a constitutional nature) which are to be developed here. But the author, after nearly six years' experience of the disaster which has resulted from attempts to solve not wholly dissimilar problems along different lines in the United States, now feels – even more strongly than he did previously – that non-violent progress towards a free, just, stable regime in South Africa, whatever detailed form that progress may take, demands recognition of the political and economic principles which are about to be enunciated.

The term 'classic liberalism' (which we shall use) describes a political philosophy traceable through the writings of Locke, Montesquieu, Hume, Kant, Constant, von Humboldt, J. S. Mill, Tocqueville, Spencer, Acton and Hayek.² In the works of these thinkers there are two common threads of agreement: firstly, that the primary function of the State is to ensure the freedom of men in thought, communication and action; and secondly, that the State consists of a small group of private people, necessarily entrusted (as legislature or as executive)

with great powers, whom it is essential to subject to some form of social discipline.

Three broad methods of exerting the required social discipline exist: (i) representative government, under which governments may be changed without violence; (ii) an entrenched constitution providing 'rules for making rules', that is, rules to which all valid legislation must conform; and (iii) some form of *effectively entrenched* 'separation of powers', the Courts being accorded the function of declaring unconstitutional any legislation or administrative act which breaks the constitutional rules, but strictly denied any right to change or add to those rules.

Because the prime function of the State is to ensure the freedom of men, 'classic liberalism' assigns it the duty of suppressing all private use of coercive power. The exclusive right to command the use of force is accorded to (i) the Courts and (ii) an Executive which, *subject to the Courts*, must accept responsibility for the enforcement of constitutionally valid laws. In a society in which the State is failing in this duty, a person may be forced to carry and even use a pistol, or to participate in strikes, lock-outs or boycotts, as a defence against the aggression of others.³ But in a fight there can be no presumption or even probability that right will triumph. Victory is to those with the strongest weapons. That is why the State should be prepared to act immediately against the instigators or perpetrators of internal physical or economic violence as readily as it is prepared to defend the community against external aggression.

Strikes, lock-outs and boycotts are not the only forms in which coercive power of economic origin may be privately used. All collusive agreements to fix prices, or to limit output, or in any way to restrict production are coercive. For competition being simply the process of substituting what any person or group of persons believes to be the least-cost method of producing and marketing outputs or of achieving other economic objectives,⁴ restraints on it are as much a curtailment of freedom as is theft with violence. Hence the enactment and enforcement of laws to prevent agreements to limit competition are an important governmental function.

Almost universally, however, laws to forbid the suppression of competition are applied only against the politically weak.⁵ We

suggest, therefore, the constitutional entrenchment of the principles (i) that private economic coercion be outlawed,⁶ and (ii) that all legislation shall be non-discriminatory and all private economic contracts void and non-enforceable if they can be shown to be discriminatory. Such an entrenchment must, we suggest, be accepted as *the key to peaceful co-existence in racially complex communities*. But that principle is also the pillar of *any* society in which freedom is effectively enshrined.

There is no *detailed* agreement among 'classic liberals' about the appropriate sphere or range of the State's 'planning' functions;⁷ but there is complete agreement on one point, namely, that objectives sought should be non-discriminatory (i.e. affect all members of the community in the same sort of way). Moreover, since some form of collective bargaining is inevitable,⁸ and since it may seem impossible to exclude the possibility of *all* use of private coercive power in such negotiations, it is equally important to provide that private agreements shall at least be void and unenforceable (if not illegal) when they are discriminatory.

The concept of non-discrimination is admittedly far from simple. It is not *necessarily* discrimination, for instance, to treat persons with different relevant attributes differently. Thus, in some European towns, legal enactment confers privileges in public transport on the crippled. But as every person who might have the misfortune to become crippled may benefit from this humane enactment, it is not discriminatory. Similarly, there is no discrimination in an electoral law which limits the franchise to persons who have attained educational or responsibility qualifications, provided either that there is genuine equality of opportunity to acquire such qualifications, or that genuine steps are being taken to create opportunities for that equality (and provided, of course, that any test is justly applied). Nor would it be discrimination against the unfortunate if voting laws incorporated the principle, put forward by J. S. Mill,⁹ that recipients of State assistance, while retaining other citizen rights, should be denied the right to vote (a point to which we shall return).

Now among the discriminations imposed by or tolerated by the State, those which appear to conflict most seriously with the principles of freedom are based on race, colour or creed. For a

host of psycho-sociological reasons, races (or other groups) possessing political power tend to exploit any race or class which lacks that power. But had the State in South Africa been restrained from discriminating on the grounds of race or colour, and had it prevented such discriminations as have been enforced through the private use of coercive power, problems for which many think it is now hopeless to expect a peaceful settlement could, we suggest, have solved themselves gradually – as they arose.

This does not mean that the abandonment of long-accepted discriminations at any time would not have aroused bitter emotions. It is platitudinous to say that there would have been resistance among races or classes whose privileges were reduced. *But even more bitterness would have been released among those who benefited from the dissolution of past injustices.* If there is any apparently indisputable proposition about the removal of barriers to equality of opportunity and consideration, it is that races or classes rescued from former inequities may be expected to demand privileges for themselves and be easy prey to incitements to vengeance. This is particularly important in the case of those minorities who, previously denied the franchise, suddenly become 'swing voters'. Within such a group feelings of envy will combine with long-repressed, now awakened resentment. This has, for instance, been the history of the achievement of political equality for the Negro in the United States.

For these reasons, any planned trend towards the eradication of race discrimination in South Africa will require the most stringent legislation for the enforcement of law and order during a long transitional period. In a society as complex as that of the Republic, the peaceful extension of political power to all racial groups will need, as a top priority, machinery to ensure vigilance and stern discipline in the suppression of deliberately fostered unrest. But the restraint of subversion, the difficulty of which will be magnified the more rapidly past injustices are dissolved, can occur in a tolerable manner only if it is subject to *the rule of law* and a drastic elimination of 'the law's delays'. Ministerial and administrative jurisdiction in this sphere must be gradually abandoned and the necessary decisions transferred to politically neutral Courts. The timing of the different stages in the withdrawal of economic privileges will need careful calcu-

lation to ensure orderliness and coordinative adjustments, and to avoid extreme disturbance of established expectations in the labour field. For this to be achieved, wide discretion will have to be delegated to a responsible authority. But appeal to the Courts against its actions and decisions will be essential for the preservation of the confidence that is basic to the policy I am suggesting. And even so, the scope for mischief-making will be prodigious.

Following the 1970 General Election, the South African Prime Minister described the Government's policy as that of *creating* 'prospects and opportunities' for every racial group, 'without fear that the one will deprive the other of that which is his own as a result of the prospects and opportunities which it has been afforded'. Except that the reference to '*creating* opportunities' should be to '*releasing* opportunities', the principle stated seems to be exactly that which we are here enunciating. At any rate, we can claim that it *is* the same principle if it means acceptance of the principle of dissolution of privilege by legislation as distinct from seizure of property by legislation. The distinction between privilege¹⁰ and property is vital.

Conservative sceptics will ask whether, people being as we know them to be, the achievement of non-discriminatory freedom in a multi-racial society can ever be made sociologically tolerable when racial privilege has coincided initially with class privilege. They will fear that the eradication of colour barriers must precipitate even worse injustices. Freeing the labour market and conceding the right to vote to all races may release a flood of destructive envy to burst the fabric of ordered social relationships and mock the ideals of those who had fought for equality of opportunity. *But such a fear overlooks the stabilising role of the institution of property when the Constitution is deliberately fashioned to prevent spoliation and exploitation via the government itself or in other ways.*

Race discriminations in South Africa had their *origins* in history. Their *perpetuation* has been due to the quite natural use of State power and trade union collusion (especially since 1910) to preserve the *status quo* in the interests of the enfranchised proletariat. The growth of equality of opportunity among the races has been prevented thereby, and the policies of all parties have prevented the gradual emergence of equality of respect and

consideration. The 'Civilised Labour Policy', on which the Labour Party members of the 1924 Coalition Government insisted, had the superficially defensible aim of mitigating an unduly rapid dissolution of racial barriers. A sudden withdrawal of the privileges of the Whites could have caused a cruel disturbance of expectations. The wage-rates of white workers, as they were in 1924, had been determined in ways of which very few had disapproved. Typical trade union methods had been virtually without criticism by religious teachers or moralists generally.¹¹ If, therefore, the purpose of the 'Civilised Labour Policy' had been simply to ensure a levelling up rather than a levelling down, there would have been much to be said for it.¹² It could have been regarded as the most humane and sociological acceptable method of eradicating historically created injustices. But the aim of the Labour Party was to maintain the *relative* standards of Whites.¹³ This was achieved mainly through colour bars in forms which satisfied the consciences of the politicians responsible, won the support of many well-meaning friends of the exploited races and seldom led to protest or opposition from the victims.¹⁴

Incomparably the most powerful and unjust of all the discriminations against the non-Whites has been a simple insistence upon 'the rate for the job' or 'equal pay for equal work'. The races which, in the middle 1920s, would have been able to enter relatively skilled employments in increasing numbers, through the pressures of the free competitive market, were denied the right to discount their *initial* inferiority by the 'standard-rate' provisions of the *Industrial Conciliation Act* (1924) and the *Wage Act* (1925). The authors of this legislation knew full well (i) that educational facilities for the Coloureds and Indians (and still more for the Bantu) were hopelessly inferior; (ii) that the home background and traditions of the non-Whites constituted a formidable competitive handicap; (iii) that proletarian prejudice against employing non-Whites in occupations traditionally associated with the Whites would be a further obstacle to competition; (iv) that the discriminatory consequences of inferiorities of education, upbringing and sociological environment could be enhanced by the requirement, under the Factories Act, of separate entrances, separate cloakrooms, etc. for non-Whites; (v) that many of the trade unions were already enforcing the

'closed shop'; (vi) that 'employers', faced with the reality of the strike weapon, would be anxious to appease the unions; and (vii) that the apprenticeship system would, given the educational qualifications laid down and the composition of the boards of selection, make it virtually impossible for non-Whites to obtain entry to most kinds of skilled artisan work.¹⁵ In the light of all these circumstances, it was shrewdly foreseen that the superficially just principle of 'equal pay for equal work' could act as an impregnable barrier to racial equality.¹⁶

Since the official adoption of the 'apartheid' or 'separate development' policy in 1948, more honest, if not more effective, methods of discriminating against the non-Whites have been adopted. To satisfy the white electorate, it became opportune to impose *conspicuous* colour bars. Indeed, the real purpose of most of the discriminatory legislation since 1948 seems to have been that of perpetuating the inferior social status of non-Whites rather than the erection of new *economic* barriers.¹⁷ The most deplorable effects are to be seen in the deliberate and often almost sadistic affront to the dignity and self-respect of the non-white races. This must, one feels, have left sullen, smouldering resentments in the hearts of many of the better-educated (usually the more enterprising and able) Coloureds, Indians and Bantu. In so doing, it has presented potential trouble-makers with a moral justification for the stirring up of discord and disunity.

We reach now the crucial conclusion of this essay. The colour bars which have perpetuated the historically determined material inferiority of the non-Whites, engendering virulent animosities (due even more, we believe, to the wounded self-esteem of races than to economic injustices), can be traced to the power of the State to discriminate; and the colour discriminations in the economic sphere have all been effected through restraints imposed on the competitive market. The free market is manifestly colour blind. When one buys a product one does not ask, 'What was the colour of those who made this?' One asks simply, 'Is this product good value for money?'.¹⁸

Only a few years ago, officialdom appeared to be engaged in a tug-of-war within itself. On the one hand, the political necessity for continued prosperity made it expedient to permit creeping economic integration. On the other hand, conspicuous

restraints on the competition of non-Whites were maintained. At one time the Bantu were being discouraged from becoming part of the private enterprise system, ostensibly for their protection against the evils of 'capitalism'. When the present Prime Minister (as Minister of Bantu Administration) was introducing legislation to establish the African 'homelands', he defended the policy of forbidding private investment in these areas on the grounds that 'we will not let the wolves in, those people who simply seek where they can make money in order to fill their own pockets'.¹⁹ Since then, however, there has been what at present appears to have been a fundamental shift of position. Private investment in the 'homelands' from outside is now being actively encouraged, although investors in the 'homelands' are committed (wisely, we think) to selling out to Bantu investors within fifteen to twenty-five years. Moreover, the Government is using its power to allocate African labour, relying on the carrot of indirect subsidy rather than on the whip, so as to attract industrial expansion to areas where employment will be available for the Bantu, both in the 'border areas' and in the 'homelands'.

The 'separate development' policy has thus turned out to be much less rigidly doctrinaire than early Government pronouncements had led detached observers to fear. Nevertheless, the situation in the Republic remains politically unstable. By this we do not mean that the present Government seems likely to lose its formidable majority in the foreseeable future, or that there are prospects of successful subversion inside the country. But the threat of ultimate military aggression from outside is likely to increase *as the world seems now to be going*, unless 'separate development' can be amended to allow an *acceptable* participation for all races in the democratic process, and the abandonment of the humiliating features of *apartheid* – those sometimes cruel features of South African policy which cannot be hidden from the world. But the concession of what I have vaguely termed 'acceptable' participation in representative government could itself force the gradual relinquishment of such separateness as necessarily implies an insult to the non-white intelligentsia.

A large majority of the Whites in South Africa believe that, were greater equality of social status to be permitted, it would

inevitably lead to a demand for universal suffrage or a common roll – ‘one man one vote’ – while that would mean disaster. Such a fear, although quite natural, would prove unfounded under the constitutional arrangements here suggested.

It would be equally understandable if sophisticated critics objected that nothing less than universal adult suffrage would silence South African critics abroad. Certainly the attitude of the world generally towards Rhodesia under the amended Whitehead Constitution seems to confirm this conviction.²⁰ *On paper*, that Constitution had created the nearest example to a pure ‘J. S. Mill democracy’ that has existed anywhere since the 1870s. The application of sanctions against the Government which was administering it, on the grounds that it did not confer the right to vote on *all* adult Africans, hardly suggests that the world would be less misinformed about any sharing of political power in South Africa.

Yet this tragic piece of history does *not* constitute a tenable objection. If the sanctions imposed on Rhodesia had not crushed the pure non-racial democracy there, the regime could have survived outside misrepresentations. In spite of untruthful reporting, the facts would gradually have filtered out. Similarly, if changes in the required direction within South Africa or even serious preparations for such changes (in the form of official multi-party studies of the issues) are initiated *sufficiently soon*, that is before a hostile and often hypocritical world causes them to appear merely as a reluctant retreat in the face of threatened military aggression, the Republic will surely receive at least some credit and some sympathy for the difficult task it will be tackling.

But any progress along the lines suggested requires a clear recognition that the fears of the presently dominant Whites in the Republic are reasonable, realistic and genuine. A system of ‘one man one vote’, without an unchallengeable limitation of State power, *could* mean – and in the light of the anger aroused against the present regime, almost certainly *would* mean – spoliation and revenge. But a planned transition to an era in which the right to change rulers by voting is gradually shared with all races, under the constitutional safeguards of ‘classic liberalism’, could open the path to a more acceptable, more just and incomparably more prosperous regime.

The chief practical obstacle to the acceptance of any such solution is, of course, the utter lack of faith which the minorities are likely to have in the entrenchment of the recommended Constitution. The failure of the attempt to entrench certain clauses of the South African Act of Union (which clauses, after a number of manœuvres, were eventually overridden by the stratagem of packing the Senate) is only too well remembered. Moreover, in the great working example of an effective constitution, which at one time might have been regarded as a model, that of the United States, the Supreme Court has been allowed to develop (as one critic has described it) into 'a constitutional convention in permanent session'. For such reasons, the technical task of providing machinery for iron-clad constitutional entrenchment becomes the primary issue.

We suggest (i) that an acceptably rigid entrenchment of the non-discrimination principle *is* practicable, but (ii) that an important transitional requirement will be a weighted franchise to reassure the minorities (Whites, Coloureds and Indians) who could not be expected to perceive the protection inherent in an irrevocable separation of powers. There might well be special amendment provisions, however, under which the minorities (recognising later that adequate guarantees *are* provided by the non-discrimination principle) could renounce the initial weighting at some future time.

A further requirement will be a high educational or responsibility franchise qualification. The enormous complexity of the racial and sociological set-up and the scope for the trouble-maker so created, seems to make it essential that, while all citizens should have *an equal right to qualify* for the vote, the qualification should be based upon other factors than age. We suggest that (i) *during the transition*, all presently qualified voters shall be allowed to remain on the roll for the purpose of electing the Lower House, all additions to that roll being subject to an appropriate, *non-discriminatory* test of education and responsibility; and (ii) *special qualifications* (educational or indicating responsibility²¹) shall be demanded *at the outset* for the election of an Upper House, which should possess the right of veto. The *eventual* membership of the Upper House should be designed to bring about gradual equality of representation for each of the four racial groups *as such*.²² A further requirement for electors of

the Lower House which, we believe, would be conducive to the success of the scheme would make qualification optional for otherwise qualified citizens with an income below a certain level. Those in this income class could be allowed to achieve full citizenship, which would include the right to vote, if they accepted the obligation to pay income taxes over and above the rather low poll taxes such as exist at present. Taxation generally would (for reasons explained below, on p. 114 and footnote 24) be based on the 'proportional' and not the 'progressive' principle (except for a countervailing progression to offset the regressiveness of indirect taxation). Citizens with an income below a level to be determined could, however, if they so wished, contract out of the right to vote.

The purpose of such a condition can be more clearly envisaged in respect of another desirable qualification for the franchise, namely, that the voter shall not, during any electoral period ending, have benefited from any 'handout' or any 'welfare' benefit from the State other than any insurance, pension or other benefit which his contributions (including the absurdly named 'employers' contributions') fully finance under an actuarially sound scheme. For in a democratic society perhaps the most vital non-discrimination principle which has to be entrenched is that majorities shall have no power to enrich themselves through government at the expense of minorities.

In order to guard against a *coup d'état* and create faith in the permanence of the entrenchments, the police and the armed forces must be made responsible to a President, chosen initially by the Judiciary according to their appraisal of his political independence and ability to win the trust of all racial groups. It is possible that a person of the required attributes could be found in the Public Service, but it is more likely that he would be found in the Judiciary itself. In any case, we recommend constitutional provision for *all subsequent Presidents to be elected, or otherwise chosen, from the Judiciary* – preferably by the Judiciary.

Because of the vital role of the Bench, the method by which judges are appointed is of major interest. To achieve a complete divorce of the Bench from politics, we suggest that advocates, on being raised to senior status, shall be called upon to decide whether or not they wish to be *eligible* for ultimate elevation to

the Bench. If they so elect, they will be expected to cut themselves off from membership or association, direct or indirect, with any political party.²³ The purpose of these suggestions will be obvious to anyone who has followed the history of the United States Supreme Court, especially since the 1930s.

Finally, the Courts must themselves be bound by the Constitution which it will be their duty to interpret. They must not be allowed to drift from interpretation to constitution-making. That similar provisions were not explicitly written into the United States Constitution has proved its chief weakness. Clarity of wording could probably provide a sufficient safeguard. Nevertheless, procedures must be designed not merely to permit constitutional changes desired by a majority of all races but, in the unlikely event of the Courts being generally believed to have exceeded their powers, to reasonably easy responsible appeal by persons or corporations (not by political parties) to a carefully constituted Committee of Senate, *acting as a Court of Constitutional Appeal*. This Committee could then adjudicate solely on the allegation that, in a specific decision, the Judiciary had gone beyond its purely interpretative functions. The crucial difficulty of course is to devise machinery to enable the white minority (or some other minority) to protect itself against a possible judicial tyranny without weakening the guarantees needed to win consent. But if every race is to have faith in the entrenchment being impartially enforced, special safeguards will certainly be needed. The problem is not beyond solution.

We return now to the constitutional provisions intended to guarantee the *survival* of full civil rights for the Whites, and the *achievement* of these rights for the other races. These provisions must declare unconstitutional all legislation which discriminates on the grounds of race, colour, creed, ancestry, sex, language, income and property,²⁴ and render void or unenforceable all private economic agreements which similarly discriminate.

The elimination of discrimination through private agreements will facilitate the task of the Legislature and the Executive in gradually eradicating the private use of coercive power. When this has been done, private economic discriminations will have disappeared; for as we have seen, the free market is inherently non-discriminatory.

It will be especially important, however, in a country as com-

plex as South Africa that there shall be no misapprehension about the purpose. In no way should the right of every person to choose his associates be questioned. Because discrimination on grounds of sex, religion, race or colour is forbidden, that does not mean that the Courts must force every women's club to admit men, every Catholic club to admit non-Catholics, every Jewish club to admit Gentiles, or every white university to admit non-Whites. But to the extent to which the free choice of associates has the indirect effect of excluding those of a particular group from economic opportunities, then persons who feel themselves materially prejudiced thereby should have the right to seek admission (if they are qualified on other grounds).²⁵ The existence of material prejudice would be a question of fact. For instance, at one time the universities of Oxford and Cambridge excluded Catholics and women. This was clearly an abuse because there were no other institutions of learning which could offer opportunities of a roughly equivalent nature. But there *may* be no discrimination involved if some universities and colleges restrict admission to students of a particular religion or sex or colour. Of course if institutions of learning are State subsidised the duty to ensure that there is an equal right for all to enjoy the subsidised services is enhanced.

It goes without saying that entrenchment of the right to free choice of associates ensures protection against private coercion for people whose preferences do not happen to conform to those of the mass. Thus persons in South Africa who might wish to form or join a multi-racial club or university must have the right to effective protection not only against physical violence (of the Ku-Klux-Klan type) but against any form of boycott or retaliation. There might be no means of protection against the expression of disapproval; but an individual harmed should have the power to claim damages against any who *organised* disapproval.

Some might feel that to respect the right of a person to choose his friends and associates in the light of whatever attributes he happens to value must imply a humiliating insult for those he does not choose. If that viewpoint is accepted, the achievement of racial harmony in a free society will be regarded as impossible unless people are *forced*, not *taught*, to see what they lose in the richness of life and experience when skin colour, race or ancestry

rule out friendships and acceptance. The 'classic liberal' will not dogmatically reject this viewpoint, although J. S. Mill regarded as vital the principle that it is never justified to compel a person to act *for his own good* in a manner in which he would not otherwise have preferred to act but only to prevent him from harming others. Nevertheless, as the present writer argued in 1936,²⁶ Mill's principle does not necessarily hold when the purpose of the restraint is *educative*. For instance, the forcing of schools and universities in the United States to open their doors to Negroes and other minority groups could have been bringing about the required educative consequences had other circumstances been favourable. The balance of opinion among American observers whom the writer has consulted on this point is that *the compulsion might well have had this effect*, but that it has in fact created a milieu for the deliberate perpetuation of racial resentments and hatreds.

In the case of the Republic, however, any attempt at general compulsory social integration would constitute so sudden a disturbance of tradition²⁷ that it would prevent, not assist, the attainment of the objective. On the other hand, *compulsory* social segregation would have to be courageously abandoned under the proposals here put forward, and that would provide a compensating educative factor.²⁸ Moreover, persons of all races would have to be conceded the right of election to Parliament. In the lobbies, in the House of Assembly restaurant, in the traditional governmental and provincial receptions, 'garden parties' and like social events, all colours would have to be welcomed (as they already are in the Republic's embassies and consulates abroad). Moreover, the formerly 'open' universities would almost certainly decide again to admit students on academic merit alone. And under the new Constitution non-Whites would, we believe, be allowed to return to these universities under conditions of greater genuine social equality than had ever before existed. For one of the unchallengeable lessons of integration experience in the American universities is that, in student societies, in social activities like dances, in sport, and so forth, there have been virtually no *spontaneous* difficulties at all. Where trouble *has* occurred, it seems always to have been skilfully instigated by professional infiltrators from the 'Left'. But wise policy could prevent this; and the 'togetherness' of

students of all races would provide an important part of the education of the classes from which non-white Members of Parliament and Senators would be drawn. Hence the 'educative' principle might be held to be relevant here.

The means of eradicating private economic coercion is simply the enforcement of legislative provisions similar to those of the Anti-Trust Acts of the United States applied in all spheres (i.e. with agriculture²⁹ and labour included). But the laws needed would have to be based upon the clearest recognition (a) that competition (the substitution, for the consumers' advantage, of the least-cost method of producing and marketing any product or securing any economic objective) can never be 'unfair' or 'wasteful';³⁰ (b) that restraints on economic freedom (restraints of competition) can *never* be a means of securing 'full employment', or of fostering a foreign trade which is more productive than internal trade, or of facilitating the maintenance of the trade balance, or of permitting the consumer to enjoy any freely preferred advantages which he could not otherwise have enjoyed;³¹ and (c) that the essence of the conduct to be outlawed is not the achievement of 'monopoly' as such but *the contrivance of scarcity*, i.e. the forcing up of the price of any commodity or service (via collusion or otherwise) above its 'natural scarcity' value.

But big practical difficulties would be met in planning a gradual transition to the new non-discriminatory economic order. Great powers would have to be delegated to a *Restraint Eradication Board* which would have the task of organising a *slow but sure* relaxation of economic restrictions, with a view rather to a *levelling up* than a *levelling down* of economic standards. They would need the authority to call for the abandonment or successive modifications of any restrictive labour practice or any other privately or legally imposed restraint which had been excluding any group or person from the wage bargaining table, but no power to impose any new restraint. A certain minimum speed at which they would be committed to take the steps required could well be specified, but otherwise the process would be best entrusted to their untrammelled discretion. For instance, the reduction of any wage-rate previously fixed under any strike-threat influence (whether or not through the procedures of the Industrial Conciliation Act) or any minimum wage-rate previously fixed under the Wage Act, might well be

at least 10% *per annum* for the first year, 7½% (of the reduced minimum) for the second, 5% for the third, etc. (These percentages are, of course, completely arbitrary.) It would *not* be an offence for any management to continue to pay more than the falling minima, but it would be an offence to resist, by the threat or resort to the strike (or other violence), any use that managements might make of their power to expand outputs by cutting wage costs within the limits enacted. For when managements do this, they add to the source of demands for non-competing outputs and set in operation the wages-multiplying process. The *average* real wage-rate would soon begin to rise, and the new minima fixed would cease to have any relevance. Severe labour scarcity, caused by the rapidly increasing wages-flow, would have brought about, in nearly all fields, free market values of labour well above the corresponding minima for all degrees of skill or competence.

Another, quite separate authority, the *Compensation Board*, would have to be entrusted with the task of authorising compensation for the very small minority of workers in formerly privileged groups whose established expectations were drastically harmed, the compensation being dependent upon the willingness of any individual helped to undertake alternative employments offered and/or training. *Ceteris paribus*, any compensation would vary according to the age of the recipient and the estimated versatility of his skills. The funds for compensation could be obtained from a very small percentage levy on the greatly increased general wages flow. We judge that a period of two decades would be sufficient to allow the formerly privileged races to have adjusted themselves to emerging equality of opportunity. Thereafter, a small minority *might* still need special protection or subsidy.³² But on principle the beneficiaries of such *continued* protection should, while the assistance continued, be deprived of the franchise.

At the end of the transitional period, no colour bars or race discriminations *imposed by law or by clearly discernible private collusion* would survive. Admittedly, large differences in the average income of the various racial groups might well continue for many decades still to come, protected by the sociological cushion of human inertia. But surviving customary restraints would all the time be subject to steady erosion *where the bene-*

ficiaries of the new opportunities were prepared to fight against inertia (a) through deliberately pricing themselves into higher remunerated and more productive work and (b) through investing in themselves, not only in skill acquisition but in building up a reputation for reliability, co-operativeness and loyalty ('loyalty' not to managements or investors or corporations but to the great society which the workers, as well as managements, investors and corporations, are serving).

Nevertheless, the understandable resentments aroused by the *apartheid* era, the external threat of black nationalism and the realities of the cold war seem to make very remote any hope of initial formal and voluntary acceptance by the non-Whites of any new order of the kind we have tried to show would be practicable. If efforts were made to win approval via a National Convention at which the different races were represented by elected delegates it would, we feel, be doomed to failure. However sincere the proclaimed objectives, the dismal truth is that the easiest path to prestige, influence or elected office in a racially complex community is via the exacerbation of the prejudices, hatreds, envies and general unreasonableness to which proletariats are subject.

Moreover, as we have already stressed, the greatest danger with which any purely democratic society is faced, and especially a society which is in process of eradicating historically determined racial discriminations, is subversion. Hence, frankly recognising the fact that good constitutions are based *on the absence of faith*, that is *on mistrust*, we envisage a voluntary, *unilateral renunciation of dominating political power and economic privilege* on the part of the Whites *on their own terms*, but on terms which will be so obviously just and enlightened that disinterested non-white sceptics at home and abroad will gradually learn to be satisfied *as they perceive the new era in operation*. For the regime will certainly not endure unless it is based on equality of opportunity, *conspicuous* equality of respect for persons of all races and colours and the absence of surviving discrimination through subterfuge.

The sanctions for a Constitution framed in the manner suggested would be that each individual acquiring the qualifications for the vote would specifically contract in and thereby pledge himself to uphold the Constitution and any provisions

for its amendment. Under the kind of qualifications envisaged, it would mean that, for a long time to come, the aggregate number of votes cast by Whites for the different parties would exceed those cast by non-Whites. But this would not mean 'domination' or 'oppression' by the Whites (although we must expect that charge to be made). Discrimination through new legislation and official administration of that legislation would be forbidden; discrimination through existing legislation would have been eradicated by the end of the 'transitional period'; private contracts which discriminated in the spheres of trade, production and employment would then be void and unenforceable; and the most burdensome kinds of economic injustice based on race would have been eliminated through the proscription of any private use of coercive power.

For the enforcement of the non-discrimination principle and therefore protection of *the rights of the unenfranchised*, arrangements similar to those which were operative under the *Declaration of Rights* of the former Rhodesian (Whitehead) Constitution would seem to be appropriate. A *Human Rights Advisory Council* consisting of a certain number of nominated ex-judges willing to serve *plus* one nominated representative each from the Whites, the Coloureds, the Indians and the Bantu should be set up.³³ This Council should have the duty to examine Bills introduced in Parliament and draw the attention of the legislators to any clauses which might involve racial discrimination. If clauses on which they commented adversely remained unamended when the Bills were passed, the legislators would know that they faced the virtual certainty that the clauses in question would be held unconstitutional and void by the Courts, before which the Council's advisory opinion could be placed in the event of any challenge.

It is absurd to suggest that a person is 'oppressed' or 'unfree' because he does not possess the franchise. The writer has lived continuously as an alien in the United States for nearly six years and he has enjoyed every bit as much 'freedom' as any United States citizen. Nor would any representation of different races in proportion to their numbers be likely to bring about greater 'freedom' to majorities (unless 'freedom' were interpreted to mean 'freedom to exploit minorities'). We cannot insist too strongly that the suggestions here put forward would

have no chance of voluntary acceptance by minorities in the absence of a weighted franchise.

Under the proposals here submitted, the Bantu 'homelands' policy would not have to be discarded. One possibility is that the chief Bantu areas would be conceded complete independence so that they were constitutionally in the same position as, say, Lesotho, Botswana, Swaziland and Malawi. Recent official pronouncements in the Republic seem to have implied that this possibility has indeed received consideration. Areas that are sufficiently homogeneous from the racial standpoint, like the Transkei, might well be left as autonomous as the former 'Protectorates'. But 'homelands' like Ovamboland would have to retain something resembling their existing political status until a numerous enfranchised class had emerged and attained a comparable degree of sophistication. The many small Bantu areas also would require some specially devised form of representation. However, 'homelands' of all constitutional types could, we feel, form part of a Federal Union with the Republic, possibly with provisions for the franchise in such areas gradually being adjusted to accord with parallel constitutional limitations under the Republic's Constitution.

An alternative, which the present writer would strongly favour, is that all the 'homelands' be in due course conceded the *present* status of the Transkei, which is somewhat similar to that of the Provinces. Their inhabitants should then have the right to qualify for votes in the Republic. At the outset, of course, only a small minority would be eligible. But the Bantu *would* have direct representation in the Parliament of the Republic in both Houses.

Our purpose in thus outlining a 'classic liberal' solution for the problems which arise when political power, initially monopolised by one race in a multi-racial society, begins to be shared with the other races, has been designed simply to show the inherent practicability of a peaceful and morally acceptable way out. *The same objectives could perhaps be secured in quite different ways.* But we can claim for the 'classic liberal' suggestions as here put forward that the objective is clearcut and unequivocal. In 1934, the present author charged that writers about race policy in South Africa seemed typically to refer to 'an orderly march' of the Bantu, yet were 'reluctant to state the destination except

with intentional obscurity'.³⁴ The 'destination' we have envisaged is that of full equality of opportunity, consideration, respect and status for every racial group. Moreover, our suggestions cover protection of the objective from subversive attempts to prevent the destination from being reached. Political incentives for subversion will certainly *tend to* increase as growing affluence in any group creates the unrest which seems to be its inevitable concomitant when mischief-makers cannot be restrained.

Opposition from the privileged, which we could expect to be expressed mainly through the trade union movement, would almost certainly be vitriolic. In our judgement, however, that would be much less serious than the discontent which could be aroused among the beneficiaries. Nevertheless, plans must be framed to prevent the use of strikes in attempts to sabotage the scheme. But the better utilisation of the existing powers of the people, the greater scope for investment in human capital, the consequential rapid increase in the flow of wages and especially the rising standards of living of the lower-income groups would create an explosive situation among the beneficiaries unless all could expect ruthless protection against organised efforts to arouse and exploit resentments. The immediate enforcement of law and order at the first signs of intrigues to disturb the smooth operation of the transition would be needed.

The likelihood of the ideas we have put forward being seriously considered by the present parties (other than the Progressive Party) would seem very remote were it not for the obvious fact that the existing political and economic situation cannot indefinitely endure. And the hope that by piecemeal, pragmatic, groping changes, the basic reforms demanded can be indefinitely postponed is a dangerous illusion. But it persists largely because the politicians and the electorate are mostly convinced that the extension of political and economic equality must mean the destruction of what, if we consider the interests of the Whites alone, is a good and affluent society. If our argument is sound, what is of permanent value in the culture of the Republic *can* be conserved. Under a Constitution which is at least conceivable, with strong entrenched and strict enforcement, the supposed 'miracle' of good relations under freedom in a racially complex society is not beyond attainment.

NOTES

1. To distinguish them from those of 'liberalism' in the sense widely acquired by this term during the present century, namely, 'socialism' or 'leftism'.
2. A parallel development among the economists can be traced through Adam Smith, James Mill, J. B. Say, Ricardo, the other 'classical' economists proper, and this century most clearly through the contributions of the 'Austrian School'. The ideas of this school have crystallised in the praxeological studies which Mises has refined and synthesised in his monumental *Human Action*.
3. The enforcement of a contract freely entered into is not coercion; yet contracts to act in collusion *may* be a means of coercion. Boycotts or strikes do not differ essentially from the use of the baton or pistol for private ends.
4. Whether the objectives sought are privately or collectively determined is irrelevant; but for competition to exist appropriate rules, and institutions for the enforcement of those rules, may be essential.
5. For instance, the United States' Anti-Trust Laws are aimed at industry and commerce alone. Labour and agriculture are explicitly excluded.
6. The reader may ask, will not this leave the worker defenceless against exploitation? The present writer is engaged on a work which will show that the use of the strike-threat to influence wage-rates and conditions of work greatly reduces the flow of wages and the average wage-rate, causes avoidable inequity and inequality in the distribution of the wages flow (among races, classes and individuals), destroys employment security and is mainly responsible for the political expediency of monetary inflation.
7. All agree that *certain* co-ordinative rules must be centrally decided such as whether we shall drive on the left-hand or the right-hand side of the road.
8. Because negotiation of the contracts needed for society's co-operative activity must necessarily involve large numbers of people.
9. In his great defence of the democratic system, *Representative Government* (1861), The World's Classics Ed., pp. 279-80.
10. A transferable privilege may become property, but property is not privilege.
11. Frequent resort to physical violence prior to that time *was*, of course, condemned.
12. The writer has always held that the peaceful achievement of a more just social order demands a *gradual* transition; for protected classes have often innocently inherited their privileges, which they have most frequently not recognised as such, and on the survival of which they have reasonably planned their lives. (See the writer's *Plan for Reconstruction* (London, 1943) and his *Economists and the Public* (London, 1936), xxi.)
13. The injustices so perpetuated resemble these which are brought about in countries of more or less racially homogeneous population through the

insistence upon what trade unions term 'established differentials' or 'due relatives' – conventional ratios between the wage-rates for tasks of different supposed degrees of skill.

14. The chief attribute of the 'Civilised Labour' policy was the denial (often explicit in argument) that any colour bar was intended or operative. The two 'Colour Bar Acts' (*Mines and Works Acts* of 1911 and 1926) had been frank and honest defences of white privilege. Only in the recent recourse to 'job reservation' has the admission of discriminatory intention again been so straightforward and candid.
15. 'Employers' representatives' on the apprenticeship boards, anxious to maintain good relations with the labour unions, could usually be relied upon to refuse opportunities to the minority of non-Whites who might otherwise have qualified.
16. What misled many humanitarian supporters of the system was a failure to perceive that equality of remuneration for the production of output of equal quality is *the result of* a just economic system, not *a means of* securing justice.
17. The main exceptions have been (a) forcing Indians to abandon businesses in white areas, (b) forcing non-Whites generally to live at a distance from their work, and (c) control of Bantu labour. But we judge (c) to have been more than offset through increased opportunities in the Border Areas and within the Bantu 'homelands'.
18. See the writer's *Economics of the Colour Bar* (London, 1964), pp. 173 *et seq.*
19. See *ibid.*, pp. 159–60.
20. That Constitution was abandoned early in 1970. The responsibility for this change, which has been followed by a very hesitating move in the direction of *apartheid* by the Smith Government, must be laid on the shoulders of the British and American governments, and their press and television, which have disgracefully misrepresented one of the most enlightened experiments in multi-racial relations that has ever been available for mankind. Had the amended Whitehead Constitution been effectively entrenched (and that was not out of the question) Rhodesian experience could have provided an object lesson for the whole world, both through its successes and its failures.
21. For instance, a minimum earned income or tax liability, an approved university degree or professional qualification, a minimum age (say forty) and so forth.
22. The speed at which this equality could be conceded would have to depend upon the predicted speed of attainment of equality of economic and educational opportunity.
23. Although some South African judges could not claim to qualify according to this criterion, in the present writer's opinion the traditions of judicial independence have almost invariably been honoured by judges, even by those whose appointments appeared to many to have been influenced by party political considerations.
24. The forbidding of discrimination on grounds of income and property implies the gradual abandonment of progressive taxation, except to the extent to which this is needed to countervail the regressive effects of

indirect taxation. The recent recognition of the *inegalitarian nature of so-called 'progressive taxation'* and the growing perception that that system has emerged as a form of vote-buying (to enrich majorities or those politically powerful for other reasons such as 'swing voters', or large contributors to party funds) will have to be understood by those who set out to explain the reforms required. (See F. A. Hayek, *Constitution of Liberty* (Chicago, 1960), xx; F. C. Benham, in *Agenda for a Free Society*, ed. A. Seldon (London, 1961), vi.)

25. Thus a university would retain the right to apply its own *non-discriminatory* academic admission standards.
26. Hutt, *Economists and the Public*, xvii, *Educative Restraints on Freedom of Choice*.
27. This tradition was weakening in a quite natural manner, a fact which explains all the legislative attempts of the last few decades to protect a threatened tradition.
28. Attempts would certainly be made to use integrated clubs as centres of subversion. The costs of preventing this would be one of the unavoidable costs which would have to be accepted.
29. If agriculture were covered by anti-trust, the many official agricultural control boards would have to be dissolved. But as, in the writer's judgement, this system has harmed consumers without benefiting farmers, its abandonment is certainly not impracticable under a scheme which would mean an unprecedented expansion of demand for the products of agriculture.
30. As distinct from certain business practices sometimes called 'competition' but which have nothing to do with the process – such as fraudulent description, particularly in advertising; 'aggressive selling' (i.e. discriminatory pricing); the slander of competitors, etc. It is essential to make this point mainly because the vested interests in discrimination have skilfully succeeded in associating the term 'competition' with such practices.
31. We need not discuss here the special problems of patents, copyrights and 'externalities' ('social costs and benefits'). If there exists a case for protection of any activities by deliberately creating a monopoly, that protection should be provided, without discrimination, by the State, and not through private collusion to fix prices, outputs, etc.
32. We regard this as unlikely except for a mere handful of people; for as we have insisted, relaxation of the barriers, especially of the most vicious and powerful colour bar, 'the rate for the job', will have released an unprecedentedly large flow of real income to make practicable the process of 'levelling up'.
33. In order, in particular, to reassure the Bantu of the justice of such an arrangement it would be useful to include initially certain trusted friends of the Bantu, such as Helen Suzman, Alan Paton and Margaret Ballinger. Thereafter, it should consist of persons of eminence chosen by reason of a record of independence of politics.
34. W. H. Hutt, 'The Economic Position of the Bantu in South Africa', in *Western Civilization and the Natives of South Africa*, ed. I. Schapera (London, 1934, republished London, 1967), p. 202.

5 Population and Potential Power

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'Power to hurt is most successful when held in reserve.'

'War, like every other human activity, has its theory and its philosophy.'

POPULATION projections have revived interest in the relation of potential power to population. The potential power in question is not that of an individual, group or region, but that of a state or nation. This power consists ultimately in ability to wage war or threaten war. In this essay I review past opinion on the relationship of power to population and on circumstances that condition this relationship.

I. POPULATION SITUATION

Differential rates of natural increase are markedly altering the distribution of the world's population. First, the fraction of the world's population living in currently less developed regions may somewhat exceed 74% by the year 2000; it approximated 64% and 67%, respectively, in 1920 and 1960. Second, Asia's share of the world's population, about 55% in 1960, may approximate 57% in 2000 while Europe's share, about 14% in 1960, may fall below 9% by 2000. Meanwhile, the shares of Latin America and Africa, 7% and 9% respectively, in 1960, will rise to about 10.4% and 12.5%.

The two changes noted in the preceding paragraph are reflected in the population changes reported in Table I. The changes in relative population magnitudes estimated for 1960–2000 will be further accentuated for some time after the year 2000; for, in the last decade of this century the rate of growth

per decade will probably be at or below 5% in Japan and Northern and Western Europe, 10–16% in the U.S.S.R., China and Northern America, and 20–30% in South Asia and Latin America.³ The relative lowness of per capita G.N.P. levels in China, South Asia and Brazil suggests how much income must rise in these regions to attain even the levels already reached in Japan and the Soviet Union, levels much below those found in the U.S.A. and most of Northern and Western Europe.⁴ The

Table I
Population trends, per capita G.N.P. in selected regions

Region	Population (in millions)			G.N.P. per capita (\$)
	1920	1960	2000	
Northern and Western Europe	163	210	253	850–2270
U.S.S.R.	155	214	353	890
China	475	650	1025	(90–100)
India	251	433	981	90
Pakistan	54	100	288	90
Japan	55	93	122	860
U.S.A.	107	181	300	3520
Brazil	28	70	118	240
World	1860	2998	6130	—

prospective populations of India and China, three to four times as large as those of the U.S.S.R., the U.S.A. and Northern and Western Europe, are very much larger than the populations of British India and China around 1800, then something like 157 and 345 millions, respectively. At that time, of course, Russia's population of 39,000,000 was the largest for a European power, with France's 27,000,000 next in order.

Population growth may indirectly affect the security of otherwise stable and well-situated countries. It may do this by retarding economic development in the underdeveloped world and thus increasing political instability there. Let $I' = E'/C'$ where I' denotes rate of growth of instability in the underdeveloped world, E' designates rate of growth of expectations, and C' denotes capacity to satisfy expectations. C' is likely to be inversely related to the rate of population growth while E' is likely to be influenced by political conditions as well as by C' which, in the 19th century, usually controlled E' .⁵ If, as a

result, *I'* increases and the international power structure is destabilised, its members will be under pressure to augment their active military power, much as 19th-century nations, fearing internal population pressure, tended to favour imperialist policies.

II. POPULATION AND POWER: CURRENT VIEWS

Lenin, writing in 1923, five years after the first modern Peloponesian War undermined the European power structure and set Russia apart ideologically, anticipated that Communism would spread to China and British India and thus enlist half the world's population under Marxian banners.⁶ Twenty-seven years later Kingsley Davis found about 35% of the world's population in communist lands,⁷ or roughly the same proportion as today. This fraction loses significance, of course, as the communist world becomes subdivided, as at present.

Contemporary writers attach considerable but not exclusive weight to population as the source of national power. Thus Organski identifies two additional 'natural determinants of power' – geography and natural resources – and three 'social determinants of power' – economic development, political structure and national morale.⁸ He looks upon national income as a good index of national power since it 'reflects the contribution of both population size and economic development as well as that of other factors to a lesser degree'.⁹ The validity of this statement is, of course, open to question when one notes the constrained manifestation of power by the U.S.A. which, with about 6% of the world's land and 7% of its population, produces about one-third of the world's yearly output.

Elsewhere Organski states that 'a modern nation's power rests largely upon the size of its population. With large numbers, a nation can rise above its other shortcomings; without them, great power is impossible.' 'Tomorrow the spread of industry to all countries will reveal the true importance of population', now 'obscured by immense differences in economic development which make it possible for middle-sized nations to dominate the world'.¹⁰ No nation, he states, can be a great power unless its population numbers at least 45,000,000, a figure that may rise to 200,000,000.¹¹ Colin Clark puts at a minimum of 100,000,000

the population now required for great-power status for which, besides the U.S.A. and the U.S.S.R., only five Asian countries qualify, at least demographically. A century ago, when a minimum of 31,000,000 was required, only the U.S.A. and five European countries qualified on demographic as well as other grounds. After World War II Western Europe and Britain forfeited representation by failing to form a political union.¹²

Modern modes of warfare have not reduced the importance of numbers. A great deal of manpower needs to be engaged in the production and operation of increasingly expensive offensive and defensive equipment, etc.¹³ Moreover, control of vanquished populations calls for extensive forces, as a rule. Automation, Organski seems to suggest, gives rise to increase in scale and hence to increase in economies of scale realisable only in countries with large populations. World power, Organski concludes, will undergo redistribution as the distributive pattern of world population changes, with 'population size . . . usurping to a large extent the crucial role now played by the level of economic advance'.¹⁴ This redistribution only awaits the industrialisation of several large population concentrations, mainly China and India in the nearer future and later perhaps Pakistan, Indonesia and Brazil.

Students of political and military geography attach great weight to numbers as a source of power, but qualify its importance by taking into account not only technological levels but also spatial and natural environmental phenomena to which, in varying degree, a people must accommodate its activities.¹⁵ This approach is useful not only in itself but also as a means of demonstrating the absurdity of rhetorical similes (e.g. the 'falling-domino game') which tend to take the place of foreign policy in the United States.¹⁶

Karl Deutsch points to the decline of the United States as a superpower, given the rapid growth of population in developing countries, the industrialisation of these countries, especially the large ones, and the steady growth of discontent in these lands, nourished by food shortages and frustrated hopes. Trends under way may be expected to produce 'vast opportunities for desperate threats, demagogic demands and violent conflicts over such matter as food and migration into relatively empty

countries, such as Australia, Canada and the United States. Even demands for economic aid may in time become tinged with threats; and the richest countries will be among the most obvious targets for hostility.' Deutsch's forecast is put forward in a plea for greater study of international relations, support of which has been withdrawn by large foundations now overly engaged in what will probably pan out to be expensive but futile efforts to produce 'instant welfare'.¹⁷

Deutsch's comment points to the increasing presence of one if not two constraints upon the fraction of a nation's income and manpower that is directly or indirectly disposable for military purposes. So long as the underlying population acquiesces in a power structure that does not allow it effective access to justice and self-government,¹⁸ as in early 19th-century Britain or in the present-day communist world, a relatively large proportion of the national income or gross national product can be diverted by the ruling circles to their own purposes, *inter alia* military power. This implies, of course, that manpower can be similarly converted, a possibility that became an actuality between 1789 and 1800 when the common man finally became converted into the main foundation of military power. With the rise of effective demands for justice and insulation against destitution and extreme poverty, especially after the disastrous World War I, the relative amount of a nation's resources ordinarily and easily disposable for military purposes declines, at least in non-totalitarian countries.¹⁹ Totalitarian governments, controlling men's beliefs and information as they do and sometimes hardened by utopian expectations, are able longer to resist demands for distributive justice and hence remain free to mobilise disposable resources at a high relative level. For example, despite the lowness of average output in China, net investment in 1965 approximated one-seventh of national product and government purchases of goods and services ran slightly higher.²⁰

While democratic societies (other than the United States, which, like the Soviet Union, devotes about one-ninth of its output to national defence) spend only about 2.5-6% of net national product on national defence, they can spend as much as half. In World War I war-expenditures absorbed the equivalent of about one-half of pre-1914 national product, and

in World War II in excess of half.²¹ Today this fraction can be even higher at least for a short time, given a very young capital structure and heavy employment in non-essential enterprise; for then neither peace-time replacement of capital and durables nor production of luxuries and conveniences need make heavy demands upon the labour force and its productive power. There may, of course, be resistance to the shift of manpower out of activities deemed non-essential under war-time conditions.

Several conditions affect the relationship of power to population. If the relationship is variable, we may set

$$\pi = f \sqrt[r]{P},$$

where π designates power, P denotes population and r is a root varying between less than 1 and more than 1. Then r rises from < 1 through 1 to > 1 . Whatever the size of a population, however, its power per capita depends, *ceteris paribus*, upon its age structure, as reflected in the ratio of the population of working age, say 18–69, to the total population. In 1940 the United States could readily adjust its economy to the needs of war because 59% of the population were in the 20–64 age group and in addition many of these were without regular employment and hence easily shifted to war-time activities. A favourable age composition also makes for a higher level and rate of growth of per capita income and hence for a higher and more rapidly growing rate of capital formation per capita. This favourable outcome is due to the fact that when the rate of natural increase is relatively low, the relative number of persons of working age is higher and population growth absorbs relatively less of a nation's annual capital formation. Of course, in developed countries, the rate of growth of aggregate output is normally associated positively with the rate of growth of its labour force.

II. POWER DEFINED

Power has been variously defined and a number of its dimensions have been identified.²² If power is defined in terms of its potential, it may be necessary to take account of the rapidity with which potential power may be actualised. A definition in

general terms is desirable and will be attempted. Denotation and connotation of the term 'power' are apt to prove somewhat elusive, especially when it refers to something that is functionally connected with variation in population size.²³ It may be assumed, however, that 'power' reveals itself, as does a man's 'preference', by its manifestations. These manifestations consist in influence, particularly of military and political influence. A measure of this influence might be how the behaviour of a victim of it differs from what it would be were he free of its impact. Let an exchange ratio emerge when A and B engage in *voluntary* exchange, with A obtaining something from B in exchange for something which B prefers to that which he surrenders to A. Now suppose that A exercises 'power' over B; then the resulting exchange ratio will be more favourable to A than it would be under conditions of voluntary exchange. The successful exercise of power always manifests itself in the emergence of an exchange relationship more favourable to the wielder of power than would have emerged in the absence of the possession and exercise of power by one of the parties to this exchange relationship. Of course, should a bargaining range exist, then under conditions of free exchange the actual trading ratio might settle at a point relatively more favourable to one of the parties to the exchange; but this outcome would not be dependent upon the favoured party's possessing power in the sense described above.²⁴

Illustrative of the influence exercised by possession of power is that exercised by Britain in the 19th century before technological change became ascendant and land- and air-borne transport had triumphed over space; then British naval power, at small expense, conferred great political leverage upon Britain's representatives much as the gunned ship had made Atlantic Europe ascendant in littoral Asia after 1500.²⁵ Illustrative of a different source of influence is that which sometimes flows from foreign aid.²⁶

III. POPULATION AND POWER: PAST OPINION

Given our conception of power and extending it to the so-called sovereign state,²⁷ how does the power of a state vary absolutely and relatively with the size and growth of its own population

vis-à-vis the size and growth of the populations of other states constituting an international order of states? The answer is conditioned by the degree of stateness characteristic of the states under consideration.²⁸ It is conditioned also, as will be noted later, by the degree to which other agents productive of power can be substituted for man in general or for critical categories of men.

Consciousness of a relation between a community's size and its potential capacity to deal with other communities on terms favourable to itself may be assumed generally to exist. With the emergence of what may be called 'states', the population factor began to be assigned high importance as a source of the power of the state apparatus, together with its underlying community.²⁹ The contribution of the population factor to 'state' power was noted, for example, by Kautilya and Lord Shang³⁰ in India and China twenty-three centuries ago. While the role of population in the ideal Greek city-state was limited, this role apparently was more carefully assessed in actual city-states, Greek as well as Mesopotamian and Chinese, than in those large assemblages of stable smaller communities which were called empires. The importance attached to the population factor derived ultimately from the economic, military and (sometimes) colony-settling uses to which numbers might be put. But this importance depended in turn on how well organised a state was, how good was its transport system, and how effectively it could mobilise its manpower and other resources. Presumably it was the absence of these ancillary conditions that limited the power of China and India in ancient times when theirs were the largest approximations to nations in Asia.

Since the significance of population for the relative power of any one state depends in part upon the magnitudes of the populations in other states, the importance attached to population must have been influenced by increase in the rate of population growth and awareness of this increase. This rate remained very low until modern times, and numbers sometimes declined. As late as 1500-1700 Europe's population increased only about $\frac{1}{4}\%$ per year. Even so, considerable attention began to be given to the role of the population factor in the early modern period, with the development of larger 'sovereign' political entities (e.g. in Spain, France, England) and that body

of somewhat heterogeneous, yet not quite dissimilar, literature usually described as 'mercantilistic'.³¹ These entities or 'states' were given to territorial expansion when internal political conditions were sufficiently stable to permit external undertakings, or might be made stable by centring attention upon an external 'enemy'. These efforts tended to put a premium upon manpower for military purposes and hence for economic purposes, since it was economic activity that gave rise to the *matériel* of war. Even so, one may say, at least of English economic literature, that the supposed economic advantages of population were stressed more than the need for military manpower, less great in an insular than in a continental nation.

The impact of population change was slow to make itself felt. The only European states with a strong demographic base at the opening of the 18th century were Russia, France, the United Kingdom, Spain and perhaps Austria. With the later slowing down of France's growth and the rise of Prussia, together with subsequent German unification, the power of Central Europe increased despite the emergence of a unified Italy and the weakening of Austria.

The importance of population derived immediately from the supposition that for manpower, as for land, there was almost no substitute. The elasticity of substitution of any and all other agents for manpower was very low. Indeed, economic output was looked upon as essentially the joint result of the use of labour and land, with other agents or inputs playing a minor role.³² Only through the exchange of labour, in the form of labour-embodied goods and services, for produce and raw materials, could a state escape limitations imposed upon its numbers and strength by shortage of land.

How much manpower a state could devote to military purposes was limited also by the size of its population, though some economy in its military employment might be achieved through effective use of fortification and the state's 'natural' frontiers, as Vauban (and later Fichte) advocated, but Napoleon and the French Directory forgot, to their cost.³³ How much of a state's disposable manpower would be devoted to military purposes turned, however, as will be noted, upon social structure, military theory and practice, and ideological conditions as well as upon logistical considerations.

Although military theory and practice were not adjusted to the use of large numbers of soldiers before the late 18th century, some mercantilist writers, mainly non-English, the more bellicose of whom found in war a means to greater state-power, stressed the military as well as the economic importance of manpower.³⁴ Exaggerated notions were had of the number of people that could be put to military use as well as the numbers of troops that could be put in the field, a form of exaggeration of very ancient vintage.³⁵ Publicists, mercantilists and others overlooked the logistical and economical impediments to the utilisation of large military establishments – impediments which varied greatly as, for example, from Spain to the Low Countries – and the circumstances which greatly limited the number of men who could be effectively employed in any given battle in any particular area. They also overlooked the degree to which military theory and practice in the 18th century, and occasionally later, might play down the importance of numbers and emphasise quality, disposition, discipline, manoeuvrability, etc.³⁶

The number of men effectively employable in battle did increase over time, with the displacement of upper-class horse-borne fighting men by non-noble troops, at first largely mercenary in character but eventually largely conscript in origin. 'From the eleventh through the fifteenth century, no reliable evidence exists of a European army of more than 10,000 or at the outside 12,000 combatants. Five or six thousand soldiers was a large force to send into battle as late as the fifteenth century.' The English at Agincourt in 1415 numbered 'scarcely six thousand', and at that somewhat more than the French. With the ascendance of gunpowder and the use of firearms to a dominant role in battle, warfare was proletarianised and the numbers put into action greatly increased, perhaps trebled.³⁷

According to Oman, the number engaged on one side in a battle in the 16th century seldom exceeded 30,000 in Europe, though the Turks in their wars occasionally fielded somewhat larger numbers.³⁸ In France, in the middle of the 17th century, Condé and Turenne dealt with only 20,000 men though 'Luxemburg at its close handled 100,000'.³⁹ As early as 1627 the Duke of Wallenstein is said to have had about 100,000 men

subject to his orders, but they were in contingents scattered over Germany and neighbouring countries.⁴⁰

According to Wright, although mercenary armies in the 16th century seldom exceeded 20,000 or 30,000,⁴¹ armies in the 17th century, by then partially nationalised, 'often reached fifty or sixty thousand', and occasionally in the 18th century as many as 80-90,000; early in the next century, under Napoleon, armies of as many as 200,000 were engaged in certain battles.⁴² Already in the 17th century 'some three in a thousand' of the population were under arms, and in Napoleon's France as many as 5% of the French population,⁴³ far more than the fraction sanctioned by the 18th-century dictum that the military manpower of a state could not long safely exceed in size 1% of the population.⁴⁴

The economic importance attached to manpower did not undergo much change before the 19th century. Of course, as economic analysis improved, more importance came to be assigned to the role of agents of production complementary to manpower. Even so, however, the growth of both national output and tax revenue continued to be viewed as highly correlated with the growth of employed manpower which was assumed to bear a quite fixed relation to population. Note was sometimes taken, of course, of the partial exception of commercial Holland to this view. In the course of the 19th century there took place a variety of changes which reduced the relative economic importance of population, but not, for reasons noted below, the military importance attached to manpower. Improvements in techniques, technology and industrial organisation augmented output per head in regions to which the industrial revolution spread, with the result that Gross National Product was less closely associated with the size of the labour force in the West than elsewhere.⁴⁵ As a result, a larger fraction of the population became disposable for military purposes in the West than elsewhere. Economic progress thus became the means to the rise of the armed horde and mass war. 'The technique of war', after hesitatingly following 'the advance of craftsmanship', finally took the lead.⁴⁶

Romantic nationalism, coupled with conscription capable of mobilising 10% or more of a population, came in the wake of the French Revolution and popular democracy and ushered in a

'century of gigantic permanent armies and universal military service' without parallel in world-history.⁴⁷ Popular war, of which the Napoleonic War was the first modern example, became more atrocious than it had been in the 18th century, now that it served as 'an instrument of nationalist fanaticism' much as it had served as 'a weapon of religious fanaticism' prior to the 18th century.⁴⁸ The professional army of the 18th century was replaced by the citizen army, war itself came to be conceived of increasingly in totalitarian terms and theory began to stress the importance of numerical superiority and at times the doctrine of speedy victory. The new views had their origins mainly in the late 18th century, above all in France.⁴⁹ These views may have been fortified also by beliefs similar to those later embedded in S. B. McKinley's thesis, that democracy is associated with the ascendancy of infantry (the main military arm between 1789 and the 1930s) and tends to decline with decline in the importance of the foot soldier and the common man's military usefulness.⁵⁰ The theoretician, Karl von Clausewitz, being concerned primarily with the conduct of war rather than with military power as such, stressed the advantage associated with 'superiority of numbers' fully exploited in battle but noted also that within limits skill was a substitute for numbers.⁵¹ He indicated, however, that in the 18th century the significance of 'superiority of numbers' had been neglected in military practice until the French Revolution ushered in a new form of war. This form employed the total manpower and resources of France and thus in effect imposed a similar recourse upon France's enemies. He forecast that the new form would prevail so long as governments were not separated from the people as in the 18th century.⁵²

Inventions and a growing stock of capital not only increased the militarily disposable fraction of populations but also affected the composition of the demand for manpower. On the one hand, labour-economising technological progress made military capital increasingly substitutable for manpower. So great, however, on the other hand, was the increase of capital complementary to the military use of manpower, that technical progress could be defined as population-utilising on balance. Improvements in transport, mobility, techniques, technology and organisation generally reduced earlier logistical obstacles to

the fielding of large armies, with the result that in a world of potentially hostile nations the demand for military manpower steadily increased.⁵³

The net effect of these changes was to increase the degree to which it was believed that population was the overwhelming basis of military power as well as the leading basis of economic power, at least in the West. Special conditions accentuated this belief. In France, for example, and eventually elsewhere, it was fear of Germany after 1871 that prompted great emphasis upon the military implications of population growth.⁵⁴ In Germany it was the belief, stressed by List and later German authors, that Germany required a larger territory and a larger population to maximise her military and economic power.⁵⁵ It was not foreseen that little more than a century after Napoleon's defeat 10% or more of the population would be directly involved in war and many more indirectly.⁵⁶ Nor was it foreseen that even in times of peace expenditure on defence might exceed 10% of G.N.P., as in 1953-4, when in the United Kingdom it approximated 10% and in the United States nearly 14%.⁵⁷ One factor that must have diverted emphasis from a nation's longer-run economic and military power to its quickly mobilisable military power in the 19th and early 20th century must have been the doctrine of speedy victory and short war.⁵⁸

An indirect index of the increase in manpower needs is the ratio of war expenditure to national product in war years. During most of the 18th century this ratio was in the neighbourhood of one-tenth; it ran about 13% during the Napoleonic wars and 30% during the U.S. Civil War. For Germany in the Franco-Prussian War it ran about one-fifth, the level reached later in the Russo-Japanese War. This upward trend reflected increase in average output and the disposable fraction of product as well as progress in man's capacity for organising and mobilising military resources. As noted earlier, it continued to rise remarkably in the present century, approximating half in 1916-18 and over half in 1941-5.⁵⁹

Recently, comparative population size has not been stressed. Increase in mobility, computerisation and firepower, together with its modes of delivery, have reduced the amount of manpower required to accomplish a particular purpose, though not always the number of purposes. There are only two muscle-

bound superpowers. Undoubtedly, the ability of either to assess comparative national capabilities is beset by incommensurables, uncertainty and time factors. Objectives being limited, war is limited, with concern for safety and short-run considerations ascendant.⁶⁰ Even so, if, as is probable, limitations are relaxed, numbers may determine who, if anyone, is the residuary legatee of Pyrrhic victory. After all, as Knorr observes, 'experience has taught us that if there is a great difference in population between two countries, nothing but great differences in other respects can compensate for this one in war potential'.⁶¹

IV. ECONOMIC POWER AND MILITARY POWER

In what has gone before we have suggested the strong dependence of military power upon economic power. This dependence flows from the fact that the greater the economic power of a state the larger, *ceteris paribus*, is the amount of manpower and *matériel* of which it can dispose for military purposes. Generally, when average output is high, a larger fraction of a state's economic power can be diverted to military undertakings.

Military power of course is purchased at the expense of economic power. A large fraction of the manpower and other resources that are devoted to military power is being utilised unproductively; it does not add to the flow of Gross National Product capable of use in production or consumption. Even the serendipity component of resources specialised to the supply of military power is relatively lower than that of resources utilised in the generation of otherwise utilisable Gross National Product.⁶² It follows that the more rapidly the non-military portion of a nation's manpower and capital equipment can be converted to military power, the smaller is the cost in real output over time of the maintenance of potential military power. Suppose that 10% of a nation's resources are devoted to military power. Were the whole of this devoted to capital formation, it would enable the nation's G.N.P. per capita to increase something like 1% per year at a minimum.

The size of a state essential to quite full realisation of economies of scale is smaller than the size of a state essential to the realisation of great power status. The latter now may require a population of 100-200,000,000, whereas economies of

scale may be quite fully realised with a population of about 50,000,000. E. A. G. Robinson concludes, on the basis of a set of conference papers and discussions, that

It is not going too far, perhaps, to say that it seemed to be our general impression that most of the major industrial economies of scale could be achieved by a relatively high-income nation of 50 million; that nations of 10-15 million were probably too small to get the technical economies available; that the industrial economies of scale beyond a size of 50 millions were mainly those that derive from a change in the character of competition and specialization – a change which may, if one relies on the contrasts between American and other experience, be explained partly by scale, but may also be attributed to differences of national outlook and to differences in the legal handling of the problems of monopoly, as well as to differences consequent on income and expenditure per head, and due, in part at least, to a richer endowment of natural resources.⁶³

V. THEORETICAL CONSIDERATIONS

While, for purposes of analysis, power may be conceived of in absolute terms, it can in fact only be described in relative terms. Power, as was noted earlier, consists in capacity to exercise influence favourable to the exerciser of power; A's power consists in his ability to control B's behaviour in such manner as to make B subserve A's interests. A's power therefore is a function of B's capacities as well as of his own. The greater are B's capacities, *ceteris paribus*, the lesser is A's influence over B.

The power relation between A and B may be transitory. Should A add to his capacities B may take countervailing action by adding to his capacities. In theory, a position of equilibrium might be reached; B's capacities might increase and balance A's, or at least approximate A's sufficiently, given the uncertainty always characteristic of A's (B's) estimate of B's (A's) capacities and intentions, so that the equivalent of an equilibrium situation would emerge. In the past, as Richardson suggested, equilibrium did not emerge, nor did he believe it tends strongly to emerge. World military outlay increased about

one-fourth in 1964-7 and now increasingly threatens man's well-being.⁶⁴

The reaction functions of A and B may not, therefore, be such as to eventuate in stable equilibrium, particularly if the system of which they are a part is very complex.⁶⁵ B may feel increasingly pressed to pass A. For example, the Maginot Line, a French barrier designed in part to conserve French manpower *vis-à-vis* German manpower, prompted circumventing action on part of the Germans, with the result that ascendancy passed to the more mobile Germans who were animated by other circumstances as well to avail themselves of countervailing power. As a rule, a race for power between A and B is likely to lead, not to an equilibrium, but to increasing uncertainty and concern on the part of A (B) regarding what B (A) will do. As a result the relation between A and B becomes increasingly unstable and conducive to a triggering off of conflict. At present, for example, some believe the current controversy over the A.B.M. is but a chapter in a continuing nuclear arms race that is moving into an area of uncertainty and instability instead of into one of stability. Thus, as York states, 'There is no technical solution to the dilemma of the steady decrease in our national security that has for more than twenty years accompanied the steady increase in our military power'.⁶⁶ When a situation such as this one develops, it is likely to become futile to seek stability through search for technological superiority. The problem is fundamentally one that is political in nature and can be resolved, if at all, only through political means, such as agreement to terminate a futile, self-defeating arms race.

It should be noted, of course, that a modern arms race is so different in degree from a population race as to be considered qualitatively different. When, in the last third of the 19th century, French authors pointed to the growing demographic ascendancy of a united Germany over France, the rate of growth of this ascendancy was low. For example, suppose that in year 0, A and B are equal in manpower but that B's population is growing 2% per year while A's is growing only 1%. Then at the end of twenty years, although the ratio of B's to A's population will have risen from 1:1 to 1.22:1, its margin of superiority in persons of productive age will still remain small. Less uncertainty may, of course, be said to attach to estimates

of the significance of a degree of demographic ascendancy than to those of a supposed degree of nuclear ascendancy and hence render the former less conducive to instability; yet, because of the overwhelming role nuclear power seems capable of playing, this difference may not be very significant.

Turning again to the contribution of population to power, we may express it as

$$\pi = PaCeftdRm,$$

where π is an index of power, P denotes population with age composition constant, a corrects for relative favourableness or unfavourableness of age composition, C denotes per capita productivity, e refers to deviations from full employment, f designates the flexibility of a population or its shiftability from one type of undertaking to one or more others, t with a value ranging between 1 and a major fraction corrects when necessary for excess in the amount of time required to execute inter-occupational or inter-industrial and/or spatial shifts of population, d denotes P 's density and disposition in space, and R designates the residual influence of a population's values which may increase or decrease the value of the other determinants of power π . The rapidity with which a nation's power π can be mobilised may also have a bearing upon its strength; hence m is included to represent this (usually) tactical factor which is significant in the shorter run.

If we use P to represent a population total, we must correct for variations in age composition which render it more or less favourable than an assumed standard age composition; this correction is accomplished by a . Gross National Product per capita is influenced by many circumstances other than age composition and level of employment; their total influence is reflected in C . Should employment be less than full (i.e. $e < 1$), the value of π is adjusted downward, if it is being assessed in long-run terms. If, however, a country is on the verge of war, $e < 1$ is advantageous, since it is easier to shunt unemployed persons into military and related activities than to divert them to persons already employed. Economic as well as other capabilities of a population in a dynamic world characterised by changes in the composition of aggregate demand depend upon the ability of a population to shift from one set of undertakings

to another.⁶⁷ This ability is represented by f ; it is implied by those who seek to express a nation's power in terms of its undifferentiated and hence multi-purpose products such as steel, energy, etc.⁶⁸

The variable t is included to allow for the fact that manifestation of a given degree of flexibility may require more or less time; it may be assigned a value of 1 under ideal conditions, and lesser values as actual conditions move below the ideal level. The amount of time required is less in a simple than in a complex society except in so far as the complex society is based upon general-purpose technology, machinery and education. The net significance of the variable d is not always easy to assess, for although both the availability of space and the presence of population density are useful within limits and in particular situations, these conditions may not occur together. Finally, even if the values for $Paceftd$ are similar in two countries, π will not be identical in the two should residual influences not be identical. R reflects these influences, among them differences in values affecting one or more of the elements in the equation. In pre-nuclear times m referred mainly to the rapidity with which a nation's mobilisation plans could be carried out, or some of its power could be shifted from one point to another; today m may refer to the rapidity with which nuclear power may be mobilised, or, more accurately, triggered off.

V. THE FUTURE

How will π develop in the future? As was noted at the start of this paper the rate of growth of population P is lower in countries where the value of π (e.g. U.S.A., U.S.S.R.) is higher than where it remains relatively low (e.g. China, India, Pakistan). Indeed, if P were determining, China and India would become ascendant even though a continued to be somewhat (perhaps 10%) more favourable in the U.S.A. and the U.S.S.R. The value of e will remain higher in the underdeveloped world so long as seasonal and other forms of unemployment are common. The great advantage of the U.S.A. and (in much lesser measure) the U.S.S.R. lies in their high C value, an advantage that perhaps may not prove erasable in less than a century.⁶⁹ As

a result, a very high fraction of P is utilisable in power-oriented activities in a country such as the U.S.A., particularly if the values of f and t rise as is likely and R is appropriate. The value of m needs to be high in a nuclear age, and yet, paradoxically, should it be deemed unusually high by a country's potential enemy, it could generate first-strike behaviour on the part of the latter. The value of R is unlikely to increase on balance in large countries (other than perhaps China) since racial, ethnic and other forms of heterogeneity seem to remain sufficiently on the rise to outweigh favourable components of R .

With the possible exception of China, there are no emerging great powers on the horizon even though the populations of some relatively large countries are increasing much more rapidly than the populations of Japan, Western Europe, the Soviet Union and the U.S.A. or Northern America. Too many determinants of π remain quite unfavourable in Africa, Asia and Latin America. There is little if any advantage to be had from efforts to increase the population of a state to some so-called 'great power' level other than through the integration of several or more small states, itself an undertaking seldom highly successful even in the European sphere of civilisation. The prospects for the development and/or continuation of strong or powerful defensive alliances are much better, however, in this sphere than in other regions where divisive influences are actually or potentially great. The establishment of trading relations when compatible with comparative advantage, whether based on natural or human resources, is, of course, favourable to the development of common interests.⁷⁰ Presumably, should the rulers of the U.S.S.R. make their preference function more nearly compatible with those of the underlying population, they would conclude that the U.S.S.R. stands to gain more in welfare terms through an accommodation with the West than through continuation of a counter-West policy that diverts resources from the augmentation of internal welfare.

Smaller powers need to seek their protection in the formation of stable alliances. This is more easily done than converting a set of small states into a quite economically integrated sort of union. Only a degree of success in this respect has been attained in Europe despite the extent of common concern. It is very diffi-

cult to unite and integrate any set of small states into a larger one. For, as Robinson points out,

It may be open to argument whether the economies of scale to be achieved by integrating a number of nations, already of the order of 50 million in population, are great. There are probably significant economies of integrating nations of the size of 10–15 million. But in neither case is there any danger of loss of efficiency by doing so, if the larger nations that emerge conduct their affairs with equal efficiency. There are no possibilities of diseconomies of scale arising from the excessive size of the market. There are no penalties for being bigger than the minimum size, if such there be, that will exhaust economies of scale, provided that a centralized economic policy is not collectively more protectionist against the outside world or slower at making the adjustments of economic policy that will keep the parts of the integrated unit consciously operating at a high level of production.⁷¹

It would, of course, be advantageous to integrate a number of small states into a larger one if it could be accomplished, since the economies of scale normally associated with economic development could be intensified.⁷² Achievement of military alliance may be easier in the shorter run, however, since the ostensible gains are plain and the costs are not only limited but often appear to be sufficiently offset by gains, even from the point of view of those on whom the costs are incident. It is always possible, and indeed desirable, that the formation of a military alliance eventuate into a fuller economic integration and union of the economies of the allied powers.

Difficulties arise when the countries involved differ greatly in size. Unless an alliance is well undergirded by a system of incentives, the smaller members are unlikely to continue willing to bear their due shares of the overall load except in times of war or extreme insecurity. Only in so far as benefits achieved are believed to be sufficiently commensurate with costs and attainable only through appropriate cost-sharing arrangements is a stable alliance likely to prove achievable. This condition, Olson and Zeckhauser suggest, can be more fully realised when the members of an alliance such as NATO enter into a fuller

economic union than exists at present. Even so, a large member of such an alliance benefits from some differences of purposes of other members, especially smaller members, when these differences cause the other members to invest more largely in power than they otherwise would.⁷³

Even given a stable alliance, however, it is no longer any more immune to long-range nuclear weapons than is the nation state armed with it, yet impotent to use it with advantage against others similarly armed.⁷⁴ What hope there is for civilised government and liberty seems to lie in a suitable form of trans-national society, of which a creative image to guide international political architects has not yet become manifest.⁷⁵ Into it prudent statecraft may perhaps muddle, given an initially large enough population base made up of peoples committed to a workable trans-national society. Under such an arrangement, however, population will be a lesser source of power than at present, despite its truncation by the spread of nuclear power. Achieving such an arrangement entails the avoidance of 'solutions' which increase the probability of war as did the doctrine of 'self determination' and the creation of the 'Polish Corridor' after 1918.⁷⁶

It may be, as Berle suggests, that the way to an effective trans-national system is through the creation of superpowers or empires strong enough to allow freedom to their client states,⁷⁷ and inclined to limit interventionist activities to significant spheres of influence.⁷⁸ Two such powers exist and perhaps two or three more could come into being. Then not only would a number of large free-trade areas exist; there might be greater freedom of trade among the areas, with the result that expenditure upon military power could decline markedly. Given spiralling world-wide military expenditures – increasing 30% in 1965–8 and now aggregating 40% more than expenditures on education and 200% more than those on health – however, an outcome associated with the current dual world power system, the prospect is dismal at best.⁷⁹ Military spending is out of control in the United States as in the Soviet Union, R. J. Barnet believes, because of the dominant role played by the military and their allies in the private and the public sectors.⁸⁰ It will pass under control only if strategic arms are limited and 'members of the international order' come to value peaceful change

'beyond any dispute that may arise'.⁸¹ Otherwise what *Time* describes as the 'grandeurs and miseries of war' may be extended to even more of the hitherto underprivileged than previously in this 'Century of the Common Man'.⁸²

NOTES

1. T. C. Schelling, *Arms and Influence* (New Haven, 1966), p. 3.
2. Richard McKeon, in preface to Karl von Clausewitz, *On War* (Modern Library: New York, 1943), p. xvii.
3. On the above figures, based on 'medium' population projections, see United Nations, *World Population Prospects* (New York, 1965), pp. 133-149. Gross National Product (hereinafter G.N.P.) data are from the *World Bank Atlas*, prepared by the World Bank, Washington, D.C., 1968.
4. In a forthcoming paper, 'Men, Money and War', Colin Clark estimates net national product per head in China as of 1967 at \$227 of 1967 purchasing power and the rate of growth of product per head at $2\frac{1}{2}\%$ per year in 1950-65, $2\frac{1}{2}\%$ per year in 1954-9, and $1\frac{1}{16}\%$ in 1954-65. Clark thus puts Chinese income at a higher level than others put it.
5. See my 'Return to Hobbes?', *South Atlantic Quarterly*, LXVIII (Autumn 1969). The tendency towards instability is greatly accentuated in the underdeveloped world by the relatively large ratio of persons aged 15-29 to persons aged 30 and over. This ratio - 74-96 to 100 - is nearly double that (45 and under per 100) in the developed world. See Herbert Moller, 'Youth as a Force in the Modern World', *Comparative Studies in Society and History*, x (April 1968), pp. 227-60, esp. p. 249.
6. Bertram Wolfe, *Khrushchev and Stalin's Ghost* (New York, 1957), p. 50; also Wolfe's *Six Keys to the Soviet System* (Boston, 1956), pp. 125-7, on Stalin's concern at the slowness of Russia's population growth.
7. 'Population and Power in the Free World', in *Population and World Politics*, ed. P. M. Hauser (Glencoe, Ill., 1958), pp. 193-213, esp. p. 200. See also note 9 below.
8. A. F. K. Organski, *World Politics* (New York, 1958), chaps. 6-8.
9. Ibid., chap. 8. p. 216. Cf. Kingsley Davis, 'The Demographic Foundations of National Power', in *Freedom and Control in Modern Society*, ed. M. Berger, T. Abel and C. H. Page (New York, 1954); C. J. Hitch and R. N. McKean, *The Economics of Defense in the Nuclear Age* (Cambridge, 1960), chap. 6.
10. Katherine and A. F. K. Organski, *Population and World Power* (New York, 1961), p. 246, also chap 2.
11. Only one African state has so large a population, five in Asia, three in the Western Hemisphere, four in Europe and the U.S.S.R.
12. Clark, 'Men, Money and War'.
13. Harold and Margaret Sprout estimate that, at the peak of British power and influence in the 1860s, Britain's military and naval expenditures

- amounted to but 1-2% of U.S. military expenditures in the 1950s and early 1960s. Yet Britain 'policed a worldwide empire and a global net of seaways and exerted on other nations an influence as great as, if not considerably greater than, that the United States can achieve today at a real cost fifty to one hundred times larger'. 'The Dilemma of Rising Demands and Insufficient Resources', *World Politics*, xx (July 1968), 667-8.
14. Organski's argument is put forward mainly in chap. 2 of *Population and World Power*. For a fuller account of the determinants and limits of power, see Karl W. Deutsch, *The Analysis of International Relations* (Englewood Cliffs, N.J., 1968).
 15. For example, see S. B. Cohen, *Geography and Politics in a World Divided* (New York, 1963), esp. chaps. 1, 3.
 16. *Ibid.*, pp. 58-60.
 17. See K. W. Deutsch, *The Analysis* and 'The Coming Crisis of Cross-National and International Research in the United States', *ACLS Newsletter*, xix (April 1968), 1-7, esp. pp. 2-3. A Soviet editor is quoted as commenting as follows upon current Russo-Chinese relations: 'A law of nature dictates that overpopulated countries expand to fill underpopulated areas. We intend to see that this does not happen to us.' Reported in *U.S. News & World Report*, 15 Sept. 1969, p. 34. This statement seems to run counter to modern Marxism, which, confronted by the apparatus of the modern state, can no longer view outcomes as inevitable as Marxism formerly did. See Bertram D. Wolfe, *Marxism* (New York, 1965), pp. 341-5.
 18. On the nature of power structures see N. S. Timasheff, *An Introduction to the Sociology of Law* (Cambridge, 1939), pp. 184-7. See also note 24, below.
 19. Sprout, *World Politics*, pp. 672-7, 681-4.
 20. Clark, 'Men, Money and War'.
 21. *Ibid.*
 22. See A. A. Berle, *Power* (New York, 1969); also note 24, below.
 23. On correlations of population size, see Jack Sawyer, 'Dimensions of Nations: Size, Wealth, and Politics', *American Journal of Sociology*, lxxiii (Sept. 1967), 145-72; also R. J. Rummel, 'Some Empirical Findings on Nations and Their Behavior', *World Politics*, xxi (Jan. 1969), 226-41. See also J. D. Singer and Melvin Small, 'The Composition and Status Ordering of The International System: 1815-1840', *World Politics*, xviii (Jan. 1966), 236-82.
 24. On the concept of power see P. H. Partridge, 'Some Notes On The Concept of Power', *Political Studies*, xi (1963), 107-25. On the commonly misused concept 'power structure', see Arnold Rose's critical dissection in his *The Power Structure* (New York, 1967); also E. W. Lehman, 'Toward a Macrosociology of Power', *American Sociological Review*, xxxiv (Aug. 1969) 453-64, and Timasheff, *op. cit.*
 25. See G. S. Graham, *The Politics of Naval Supremacy* (Cambridge, 1965); also Sprout, *op. cit.*, pp. 665-72; Bernard Brodie, *Sea Power in the Machine Age* (Princeton), esp. chaps. 6-7, 9; C. M. Cipolla, *Guns and Sails in the*

- Early Phase of European Expansion 1400-1700* (London, 1965). There were also 'spinoffs' for industry. See Clive Trebilcock, "'Spin-off" in British Economic History: Armaments and Industry, 1760-1914', *Economic History Review*, xxii (Dec. 1969) 474-90; also William Ashworth, 'Economic Aspects of Late Victorian Naval Administration', *ibid.*, pp. 491-305.
26. David Baldwin, 'Foreign Aid, Intervention, and Influence', *World Politics*, xxi (April 1969) 425-47.
 27. The position of a state in the international order of states is subject to continual change as is man's image of this order. See P. H. Partridge, 'Images of the International Order', *Australian Journal of Politics and History*, viii (May 1962) 1014. See also Karl Kaiser, 'The Interaction of Regional Subsystems', *World Politics*, xxi (Oct. 1968) 84-107. See also Singer and Small, *ibid.*, xviii 236-82.
 28. On variation in the degree of stateness see J. P. Nettl, 'The State as a Conceptual Variable', *World Politics*, xx (July 1968) 559-92; also A. B. Bozeman, *Politics and Culture in International History* (Princeton, 1960), xiii.
 29. R. M. MacIver's distinction between state and community is not always tenable. See my 'The Role of the State in Shaping Things Economic', *Journal of Economic History*, Supplement, vii (1947) 123-43; also MacIver, *The Web of Government* (New York, 1947).
 30. See my 'Kautilya, Plato, Lord Shang: Comparative Political Economy', in the *Proceedings of the American Philosophical Society*, cxiii (Autumn 1969), 450-7. But cf. Vegetius, *The Military Institutions of the Romans* (late 4th century A.D.) (Harrisburg, 1944).
 31. For example, see E. F. Heckscher, *Mercantilism*, rev. ed., 2 vols (New York, 1955); also my essay in *Theories of Economic Growth*, ed. B. F. Hoselitz (Glencoe, 1960), pp. 3-65, 299-344; also A. M. Carr-Saunders, *The Population Problem* (Oxford, 1922), p. 311.
 32. For example, see E. A. J. Johnson, *Predecessors of Adam Smith* (New York, 1937), pp. 247 ff.; my *French Predecessors of Malthus* (Durham, 1942), pp. 19 ff., and *passim*.
 33. Henry Guerlac, 'Vauban: The Impact of Science on War', in *Makers of Modern Strategy*, ed. E. M. Earle (Princeton, 1943), II. On J. G. Fichte, see Edmund Silberner, *The Problem of War in Nineteenth Century Economic Thought* (Princeton, 1946), pp. 164-5. See also Hoffman Nickerson, *The Armed Horde 1793-1939*, 2nd ed. (New York, 1942), pp. 106-8; also A. Wagner, *Die Veränderungen der Karte von Europa* (Berlin, 1871); J. R. V. Prescott, *The Geography of Frontiers and Boundaries* (Chicago, 1965), chap. 5.
 34. E. Silberner, *La Guerre dans la pensée économique du XVI^e au XVIII^e siècle* (Paris, 1939). On English views see James Bonar, *Philosophy and Political Economy* (London, 1893), p. 132; Johnson, *op. cit.*, pp. 247-8, 369.
 35. For example, see J. W. McCrindle, *Ancient India as Described by Megasthenes and Arrian* (Calcutta, 1926), pp. 137-51, on Indian military strength; also Hans Delbruck, *Numbers in History* (London, 1913). 'Exaggerated reports of casualties and of numbers engaged are part of

- the ordinary currency of battle and war observation', writes John U. Nef, *War and Human Progress* (Cambridge, 1952), p. 91.
36. Nickerson, *The Armed Horde*, pp. 49-51, also 46-8, 176-7, 240. 'Valor is superior to numbers', wrote Vegetius, op. cit., p. 112.
 37. Nef, op. cit., pp. 91, 93-7; Nickerson mentions larger numbers. Ibid., pp. 32-3. See also J. S. Tompkins, *The Weapons of World War III* (New York, 1966), pp. 88-9. By 1522 the arquebus had made the Swiss pikeman obsolete.
 38. Charles Oman, *A History of the Art of War in the Sixteenth Century* (New York, 1937), pp. 17, 34, 44-7, 61, 107-8, 116-17, 134, 153, 162, 187, 232-3, 305-6, 337, 612, 619-20, 655-7, 667, 669, 688, 691, 693, 696, 710, 724, 730-1. Divisiveness and lack of numbers long weakened pre-1500 Europe. Cipolla, op. cit., pp. 16-18.
 39. O. L. Spalding, *Warfare* (Washington, 1937), p. 511. 'To set on foot armies of this size was a serious matter. It was costly, and led to heavy taxation and expenditures even heavier. It involved also mobilising for the field armies every available man.' Ibid. See also Nef, *War and Human Progress*, pp. 92-9; Nickerson, *ibid.*, pp. 56-8.
 40. Nef, op. cit., p. 92.
 41. Since the leaders of mercenaries collected from their employers in proportion to the number of their troops, they had incentive to exaggerate the numbers under their commands. See also Nef, *ibid.*, p. 93.
 42. Quincy Wright, *A Study of War* (Chicago, 1942), I 232-3.
 43. Ibid., pp. 232-5, 304-6; see also Earle, ed., *Makers of Modern Strategy*, pp. 57 n., 64-5; Nickerson, *The Armed Horde*, pp. 115-20.
 44. Spengler, *French Predecessors*, p. 82 n.; Adam Smith, *An Inquiry into the Nature and Causes of the Wealth of Nations* (1776) (Modern Library Ed.: New York, 1937), Bk. V, chap. 1, part 1, pp. 657-8; also p. 659 for his belied inference that peoples would become less war-like. Under Louis XIV the fraction at times was around 2%. Frederick the Great mobilised as many as 5%. Nickerson, op. cit., pp. 57-63.
 45. On sources of productivity see Edwin Mansfield, *The Economics of Technological Change* (New York, 1968), chap. 2.
 46. Oswald Spengler, *Decline of the West* (New York, 1939), II 420.
 47. Ibid., pp. 428-9; also Nickerson, *ibid.*, chap. 3, also p. 244.
 48. Arnold J. Toynbee, *A Study of History*, abridgement of vols I-VI, by D. C. Somervell (New York, 1947), p. 284; also *A Study* (1939, unabridged), IV 141-85; VI 314-17.
 49. On the supposed significance of numerical superiority in battle after the French Revolution see J. C. F. Fuller, *Armament and History* (New York, 1945), chap. 1. On the changes in opinion see Wright, *A Study of War*, chap. 12; R. R. Palmer, 'Frederick the Great, Guibert, Bülow; from Dynastic to National War', in *Makers of Modern Strategy*, chap. 3, ed. Earle; A. Vagts, *A History of Militarism* (New York, 1937), pp. 33-5, 61-3, 77-95; J. L. Talman, *The Origins of Totalitarian Democracy* (London, 1955), pp. 95-6, 129-31; Nickerson, *ibid.*, chap. 5.
 50. *Democracy and Military Power* (New York, 1934), esp. chaps. 1, 6; also chap. 7 where it is suggested that democracy was passing 'into shadow'

under the impact of the newly developing instruments of war that were replacing infantry, so essential to the continuation of democratic government. See also F. M. Stern, *The Citizen Army* (New York, 1957).

51. *On War*, Bk. III, chap. 8.
52. *Ibid.*, pp. 580-4, also pp. 624-31 for Clausewitz's analysis of the use of numbers.
53. For example, see Wright, *A Study of War*, 1294-310; Earle, ed., *Modern Strategy*, pp. 288-92; Nickerson, *ibid.*, pp. 175-8, 202-10; Tompkins, *The Weapons*, Part II.
54. See my *France Faces Depopulation* (Durham, 1938), pp. 111-34, 182-93; Nickerson, *op. cit.*, v; Carr-Saunders, *The Population Problem*, p. 311.
55. Earle, ed., *op. cit.*, pp. 140-54; Silberner, *Problem of War*, pp. 159-63.
56. Wright, *A Study of War*, pp. 304-7.
57. *The Economic Consequences of the Size of Nations*, ed. E. A. G. Robinson (New York, 1960), p. 236. In NATO the percentage of a nation's income devoted to defence is correlated with the size of this income. See M. Olson and R. Zeckhauser, 'An Economic Theory of Alliances', *Review of Economics and Statistics*, XLVIII (Aug. 1966) p. 278.
58. On this doctrine see Nickerson, *op. cit.*, pp. 178, 225-8, 230-6.
59. See Colin Clark, *ibid.*
60. For example, see Hitch and McKean, *Economics of Defense*, ix-xii; also *National Security. Political, Military, and Economic Strategies in the Decade Ahead*, ed. D. M. Abshire and R. W. Allen (New York, 1963); Herman Kahn, *On Escalation: Metaphors and Scenarios* (New York, 1965, 1963). There is no reference to population and power in Z. Brzezinski and Samuel Huntington, *Political Power: USA/USSR* (New York, 1964). See also Tompkins, *The Weapons*, Parts II-III, chap. 11; E. Prokosch, "'Conventional' Killers", *New Republic* (1 Nov. 1969), pp. 18-21.
61. Klaus Knorr, *The War Potential of Nations* (Princeton, 1956), p. 48. See also pp. 167-9, 245-7, 302. Knorr is concerned especially with non-demographic determinants of military potential.
62. However, see Hitch and McKean, *Economics of Defense*, pp. 80-3.
63. E. A. G. Robinson, in his introduction to *The Economic Consequences of the Size of Nations*, pp. xviii-xix.
64. For example, see Lewis F. Richardson, *Arms and Insecurity* (Pittsburgh, 1960); A. Alexander, 'The Cost of World Armaments', *Scientific American*, CCXXI (Oct. 1969), pp. 21-7; also K. E. Boulding, *Conflict and Defense: A General Theory* (New York, 1962), pp. 35-40.
65. *Ibid.*, pp. 39-40. P. E. Chase, 'Control Theory and the Nuclear Arms Race', *General Systems Yearbook*, xiv (1969), pp. 137-50, and bibliography.
66. Herbert F. York, 'Military Technology and National Security', *Scientific American*, CCXXI (Aug. 1967), pp. 17-29, esp. p. 29; W. C. Clemens Jr, *The Arms Race and Sino-Soviet Relations* (New York, 1968). See also A. Chayer and J. B. Weisner, *ABM. An Evaluation of the Decision to Deploy an Antiballistic Missile System* (New York, 1969); J. T. Holst and W. Schneider Jr, *Why ABM? Policy Issues in the Missile Defense Controversy* (New York, 1969). On the race between protection and penetration in naval ordinance see Brodie, *Sea Power*, chap. 9.

67. For example, see Knorr, *War Potential*, chaps. 9, 13, also pp. 185-9 on employment change.
68. For example, *ibid.*, pp. 173-85.
69. Suppose *C* takes a value of 10 in an advanced country and 1 in an under-developed country; then if the rate of growth of *C* is 1% per year in the former and 2% in the latter, over 150 years are required for the value of *C* to become similar in the two countries.
70. On the relatively great importance of human resources see Anne O. Krueger, 'Factor Endowments and *Per Capita* Income Differences Among Countries', *Economic Journal*, LXXVIII (Sept. 1968) 641-59.
71. Robinson, *Economic Consequences*, p. xxii.
72. On scale economies see E. F. Denison, *Why Growth Rates Differ* (Washington, D.C., 1967), chap. 17.
73. Olson and Zeckhauser discuss the issues raised in this paragraph in 'An Economic Theory', pp. 278-9. See also on the economics of military alliance, Hitch and McKean, *Economics of Defence*, chap. 15.
74. John H. Herz, *International Politics in the Atomic Age* (New York, 1962); C. E. Zoppo, 'Nuclear Technology, Multipolarity, and International Stability', *World Politics*, xviii (July 1966) 579-606.
75. Horst Mendershausen, 'Transnational Society vs. State Sovereignty', *Kyklos*, xxii (2) (1969), pp. 251-73; also J. R. Pennock, 'Political Development, Political Systems, and Political Goods', *World Politics*, xviii (April 1966), pp. 415-34; R. L. Rothstein, *Alliances and Small Powers* (New York, 1968).
76. For example, see Frederick Palmer, 'Where The Next European War Will Start', *Harper's Monthly Magazine*, cli (1925) 739-46.
77. See Berle, *Power*; also H. A. Simon on the design of complex organisations in his *The Sciences of the Artificial* (Cambridge, 1968), chap. 4.
78. Charles Gati, 'Another Grand Debate: The Limitationist Critique of American Foreign Policy', *World Politics*, xxi (Oct. 1969) 133-51.
79. Stockholm International Peace Research Institute, *Yearbook of Armaments and Disarmaments* (Stockholm, 1969); also *Survival and the Bomb*, ed. E. P. Wigner (Bloomington, 1969).
80. *The Economy of Death* (New York, 1969); also F. J. Cook, *The Warfare State* (New York, 1962). See also *New York Times*, 30 Dec. 1969, p. 1, on how costs are run up.
81. G. W. Rathjens and G. B. Kisiakowsky, 'The Limitation of Strategic Arms', *Scientific American*, ccxxii (Jan. 1970) 19-29; H. A. Kissinger, 'The White Revolutionary: Reflections on Bismarck', *Daedalus*, xcvi (Summer 1968) 899-900. See also John Baldwin, 'The Economics of Peace and War', *Journal of Conflict Resolution*, xi (Dec. 1967) 383-92.

6 Consideration of some Aspects of the Rise of Capitalist Enterprise

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THE problem of the origins of *capitalism* has been repeatedly tackled by economists and historians since Karl Marx and Werner Sombart¹ put it forward, and is being given greater emphasis than ever today.² From this wide assortment of scholars, who differ as regards preparation and personal inclination and as regards the characteristics of their usual sources – it is sufficient to think only of the medieval or modernistic or contemporary specialisations of historians and of the fact that economists as a rule have difficulty in tracing sufficiently far back the sources of phenomena and of institutions – dissimilar solutions are put forward, whose differences are especially evident with regard to the chronological and territorial aspects of the birth of the phenomenon:³ reference has even been made to the capitalism of antiquity, while more than a few scholars find its development only in the decades after the work of Marx.⁴

Within the range of research and conclusions thus established, when they are made to apply to the period after the 17th century, an important element, which does not identify itself with the source, that is, the commercial document, particular to the background, has played a part. The subjects – the firms, from those of the minimum dimensions (industrial firms, essentially family firms, although experimental in commercial traffic) to those of the maximum dimensions (the societies, all involved in market operations, banks, industry, transport, etc.) – accomplish economic actions, with different conceptions of wealth and of life in general, with different approach and

different ideas, which influence decisive facts and even establish particular patterns.⁵ In my opinion, in order to investigate with the greatest likelihood of obtaining worthwhile results, it is necessary to return to a large extent to the sources peculiar to the sector under consideration: in this way, as the historian of legal phenomena applies himself essentially to official documents (from laws of the greatest importance – medieval statutes and the codices of modern times – to simple ordinances), the economic historian – or at least he who proposes to study in the economic field – must direct his attention to the intentions which those involved in that activity have declared as it progressed, with the precise purpose of finding out its effects and of successfully directing it and guiding it according to their plans, which in this way we will be able to establish.

Far be it from me to pretend to offer, with these notes, a new solution to the fascinating theme of the origins of capitalism – or even that of the essential subject matter of its economic aspects, the *capitalist firm*: I will try only, by investigating some of the many classes of documents defined by the operational reality of the firms, to examine some moment and some motive, which in the economic sense could reveal change and innovations, such as to recall to our mind the capitalist character of subjects and objects. I am not reassessing the term *pre-capitalism*, that is, one of the expressions which announces in advance events or institutions, because I would risk clouding the issue. I intend to describe – or at least to re-transmit – purely and simply that which those who influenced the unfolding of the facts have said, implicitly teaching themselves and declaring themselves from their innermost selves.⁶

In this task I have been greatly assisted by the enormous availability of significant material in the archives of Tuscany; documents some of which relate to the last years of the 13th century, others, still more satisfactory to the researcher, to the period 1350–1500, which, in spite of the volume of texts which relate to it, is also the period which has apparently been less studied.⁷

Before continuing, I will clear the field of a possible objection, as to the partiality of my investigation, in that I have based it almost exclusively on Tuscan documents, whereas the economic development of the period is very vigorous in many other areas,

especially in Italy; above all, it is necessary to remember that such documentation is useful in throwing light on the changes which took place all over the world as it was then known and with which 'our merchants' had contact, and in the world which was gradually taken over by western civilisation (I exceed for a while the proposed limit of the year 1500), since many of the firms, being of considerable dimensions, established long and consistent, and therefore more trustworthy, connections wherever the linking of mercantile, industrial, banking, insurance functions and of communications in general were most original and most abundant;⁸ we must also remember that, at this time, it was the inland cities, in fact, and the Tuscan cities, even before the centres of the Paduan plain, which shaped and introduced new methods and instruments, whereas in the initial stages of the economic 'renaissance' they had cast off the principal roles – and as innovators, having taken it upon themselves to restore international commerce to its former state and to re-establish contact with unknown and distant peoples, the coast cities, which in fact had first felt the irresistible impulses and stimuli which only the sea offered:⁹ and this is now recognised by the greatest specialists, who observe this passage of the supremacy of the devised and the similar from maritime trade centres to those of the interior.¹⁰

I believe it impossible to deny that, the documentation being intense chiefly for the period 1350–1500, it is not possible to effect an accurate chronological placing, apart from territorial, of the initial phases of the movements which are of interest to us: in many cases the texts carry in themselves the elements for similar anchorages in time; excluding, that is, different earlier movements (for the period, therefore, of scarce or non-existent documentation).¹¹

Let us open the investigation by concentrating on the subjects, that is, the firms, which are the result of a combination of people with wealth, for the achievement of a purpose: it is precisely the form and the nature of this combination which attracts us, in the same way as the individualisation of objectives and of planned methods.

We must examine when and how man applied himself to his own wealth – and, as we will see, that of others – for purposes other than that which was original and ingrained in his existence,

when wealth destined for the needs of the family was fused and confused with that which was employed in commercial activity, on the grounds of singleness of purpose: the support of self and of family. These are the typical personages of the artisan world – to which it would be superfluous to return – who operate in the channels of a tradition which had been established over generations, a tradition moulded by the environment in their subjective behaviour, and who deal nearly always and with a certain recurrence with the same suppliers and with the same clients – and, in an objective sense, who concern themselves with a more or less uniform commercial repertoire, from a qualitative and from a quantitative angle, in arrangement, also, with the times of supply and of sale; and all this dependent on a combination of equipment of the workshop (the so-called *masserizie*, a term of the time which I will use in this article) which was unchangeable and in itself not always distinguishable from that used by the ‘family’ (tables and chairs, for example, are not in fact distinguishable according to their use), and, analogically, for the ultimate condition of wealth, that of cash, which was subjected to few and limited movements, also because often the collections (and the payments) were different over time, with the development of credits (and of debts, which were used also for the needs of family consumption: the *consumption loan*). In spite of the fact that wealth was broken up into the aspects of which I have already spoken – goods, equipment, money and credits (which must always be seen as linked to debts) – this man easily controls and dominates it, because the vicissitudes are the usual ones and from a combination of them he finds the satisfaction of the fundamental and common objective of life.

Certain difficulties become evident, however, in the closer examination of credits (and of debts), since, not exhausting themselves at their settlement, they require care in the arrangement of their collection and their payment. This situation and these circumstances are clearly reflected by the surviving accounts – even if in rare and incomplete examples – from the first half of the 13th century,¹² whose form and contents had already been determined by the previous century:¹³ there are only accounts to credits (and to debts) and to related activities, while that which took place with regard to goods, to equipment

and to money is completely passed over. With full verisimilitude one deduces that the circumscription of accounts to the materials of credit (and of debt) expresses the extreme narrowness of economic life, typical of an *artisan* world, where all the subjects are individual concerns identified with family concerns and where the operative complex is characterised by the modesty of the employees' wealth and by their traditionality, the ultimate objective being simply *subsistence* or *food*. These documents, then, faithfully reflect the artisan world, which germanic sociologists and storiographers have described with such clarity, locating it in the above period.¹⁴

Dating from the middle of the 13th century, the documentation – I always allude to that documentation which most efficiently shows the character of economic subjects, i.e. accounts – becomes more abundant; and while specimens of single credit accounts continue,¹⁵ some accounts appear which manifest radical innovations, as we observe in the accounts of 1297 and 1299,¹⁶ in which new elements are very deep-seated and, therefore, leave no doubt.

Surpassing the narrow consideration of the statement of credit, or personal statements, those concerns – and many others which continued to behave in the same way, in the course of time – had to concern themselves, at a certain time, with taking accurate note of the different kinds of goods in which they were involved, following them as far as the sale of the last fraction; in their books, moreover, we can see attention fixed on equipment and we recognise it as having a specific commercial destination; they create, finally, a little book, in which they untangle the entries of movements of money, that is, the cash account.¹⁷

What does this multiplication of material of account, by means of which those businessmen arrived at the contemplation of all the possible aspects of wealth (I repeat goods, equipment and money, and no longer only credits and debts, as in the past), with all their increasing and decreasing variations, reveal? It is evident that the regularity and the uniformity of objects and of acts had been broken, breaking away from the control of the subjects: those who were characterised by a greater enterprise and spirit of initiative launched themselves into grasping the opportunities offered by commercial business, which became

available frequently and clearly, in those times of great economic development, turning their attention, therefore, to new goods (and far greater quantities and more numerous movements), on new markets, before new suppliers and new clients, while the longest spread of circulation of goods (coming from or destined for more distant markets) carried with it a large number of expenditures, which also had to be recorded; moreover, such a widened and assorted range could not do without furniture and equipment for the shop, which had to be suitable to receive it, conserve it and present it in the best possible way to the client (the intensified use of such things and therefore their depreciation determined the decreasing variations); the fluctuations of collections and of payments in cash had increased incomparably and had to be assessed readily. Anyway, that old, balanced and circumscribed system of operations crumbled for some men – and this is a consideration of an objective order – but at the same time something ‘new’ took place inside, in the mentality of those men: they found that their wealth, while continuing to serve the urgent cause of family support, had large and repeated chances of increasing, in the new, crowded and active field of opportunities of profitable investment, and they felt stimulated to enter into competition for influence and domination. Influence and domination – which, then, found their creative mainspring at that time and in those conditions; which manifested themselves, in fact, by individuals, and later agents, or employees of the concern, reaching new and distant markets, bringing new and unusual goods and gradually enlarging the basis of similar operations by means of the expansion of wealth, in order to invest it in that progressive-ness of business activity, in both a qualitative and quantitative sense.

If we fix our attention on the development of certain accounts, this involvement is outlined more clearly: in this way, for example, in the minute and prolonged entries effected stage by stage of the articulation of each lot of goods with the purpose of finding out the exact amount of wealth invested in it from the place of production of the good – sometimes very far away – almost up to its consignment to the doorstep of consumption. Each one, in short, who would have liked to enter into competition with the others would have been in a position to pro-

ceed always with the most exhaustive knowledge of what he was doing, all the more so since very often new experiences were involved.

With the accounts of goods, of equipment, of money and of credit, the merchant fully satisfied his need to know the behaviour of his entire wealth, how the expediciencies and the requirements of his task had broken it up into these four aspects.

If, then, from this superficial investigation of the aggregate of accounts¹⁸ we go on to examine accurately the purpose of each account, we establish an innovation – or, rather, a series of innovations, which, however, form one – in the old original accounts of credits and debts (which remained unchanged).

The innovations are of two kinds: one relates to the registered person; the other, to the cause of the credit (or of the debt). Among the tens of persons carried to the top of the accounts appear – as creditors of the concern – the same owners of wealth, succinctly indicated with the *ragione sociale* (firm), the concern having become a society, the so-called *compagnia* (company); as for the cause of such a debt of the concern (I will refer to credit later), the *novità* is even more sensational, because it involves the entire wealth conferred by members, which is accurately expressed by the term *corpo di compagnia* (capital of the society).

Rigorously similar are two other accounts with the same title. In one, the cause of the concern's debt consists in the increases which wealth has undergone depending on certain operations (thus, at the sale of a good, of which the outcome was a profit; at the collection of a deferred credit, increased by interest; at the conclusion of an exchange operation, which realised a profit; at the paying-off before time of a debt, to the extent of the subtracted discount; at the liquidation of an active rent, for its total amount, etc.); increases which present themselves under the generic name of *avanzi* (advances). In another, the variations of opposite sign are gathered (and, therefore, the credits of the concern and the debts of the partners): for the decreases borne in a definite way by total wealth, as in the event of loss in sales of goods, of *danni di cambi* (losses in exchange), of outstanding discounts at the anticipated collection of a credit, of outstanding interest charges for the late payment of a debt, of liquidated salaries of dependants, of expenditures of every sort

and of *logorio* (wear and tear), ascertained at the valuation of the equipment at the end of each period (amortisation or depreciation, as it is called today); decreases in wealth, generally called *disavanzi* (disadvances). These three accounts, the same for the register and differentiated according to the causes of credit, can be narrowed down to two: the first measures total wealth in a static condition (the *corpo*), abstracting from, that is, the fluctuations to which it is subjected qualitatively and quantitatively; the other two – fused into one, under the title of ‘advances and disadvantages’ – pertaining to the dynamics of management, bringing out the most recent quantitative effects of certain facts on the sum of the same wealth (while the qualitative and analytical consideration – but yet always quantitative – was committed for some time to the already existing accounts of goods, equipment, money and credit). So as to make use of the terms of the time and at the same time to simplify my exposition, I will record that to denote the actions registered in the account the verbs *dare* and *avere* (to give and to have) were used with accuracy of expression, with reference to the register of accounts. And this, as from the original accounts, which, in fact, referred to credits and debts: setting down that the person indicated at the opening of the account *deve dare* (must give), for the credits coming from the concern to which the book referred; and *deve avere* (must have), in the case of debts of the same concern.

From the example of the books of the Peruzzi – which are easier to consult because they are published by Saporì¹⁹ – when the society had as a principal partner Giotto, we can note:

(a) in the first of the two accounts described above: ‘Giotto of the Peruzzi and associates must *have*, for the *corpo* put in the company . . .’, which means the debt of the concern represented as the credit of its owners (who would in fact have taken back their quotas of wealth invested at the liquidation of the concern, or in the case of individual exclusion or withdrawal); (b) in the second: on an early section, ‘Giotto of the Peruzzi and associates must *have*, for advances . . .’, followed by a description of the reasons (according to the specifications given: a commercial gain, a profit in exchange, an active interest, an active discount, an act of rent, etc.); in the opposite section (as if it were an account of its own, even having a title): ‘Giotto of the

Peruzzi and associates must *give*, for disadvantages . . .', once again followed by a description of the reasons (I repeat, a commercial loss, a loss in exchange, a passive discount, a passive interest, a salary, a common expenditure, an amortisation of equipment and fittings, etc.).

In these two new accounts, everything took place with regularity and clarity, without contrivance; if for the *corpo* owned by the members, these members had *to have* from the concern constituted by them, they also had *to have* for all the increases – the 'advances' that is – which took place to the advantage of the same *corpo* (as each accessory element adheres to the principal); and inversely, they had to give for all the decreases – the 'disadvantages' – which also were always borne to the advantage of the same *corpo*.

It is evident that the first account represented the initial size of the *corpo*, an idea of which could be gained from another text, the act of constitution of the society or any other 'record'; so that this new account has no importance for the need for information of each concern – that of knowing what was happening to it. The creation of the account for 'advances and disadvantages' was much more important; it was designed to concentrate everything which had definitely influenced wealth in a single sum (abstracting, therefore, from its fragmentation into goods, equipment, money and credits): in such a way as to be able to know quickly, at any time, the extent of such wealth; in short, a precise and timely signal of current results in the use of that wealth.

As for the consideration of broken-up wealth, I have already said that credits of the concern towards strangers were marked – spontaneously – with *to give* and debts with *to have*, and in this way variations in the other three aspects (goods, equipment and money) were assimilated, indicating with *to give* the augmentative aspects and with *to have* the diminutive.

The evidence that the owners of wealth defined themselves as creditors and debtors of the concern means that this latter, although not a physical person, was considered a 'person' in the legal sense: since it was capable of having obligations and rights, with which it opposed itself to the group of physical persons (the members and – I repeat – the owners of the same wealth). From this one can deduce, without the slightest doubt, that at

those times and in those circumstances – which I will try to place chronologically and territorially later – a separation of ‘personality’ took place: on one hand the members, and on the other the concern to which they had given body with their own wealth. This is one of the bases of the Sombartian attitude towards the problem of the origins of capitalism (but I will not adopt this terminology, leaving the reader to judge for himself): the ‘legal autonomy of the concern’, according to a translation of the exact phrase used by Sombart.²⁰

Calling to mind the mechanism, described above, of accounts of the former series and of accounts of the new series, we have the eloquent proof of such a doubling or contrast of ‘personality’. On one side is arranged that old group of accounts which satisfied the needs of the concern itself: those of knowing how the actions of management affect the wealth which has been committed to the concern by the owners, that is to say how it has been broken up into goods, equipment, money and credits (with the separation of these in their turn into each lot of goods and each debtor or creditor), in such a way, that is, as to be operative; and everything which is positive (the increasing variations in each of these branches) is qualified by the words *to give*, while the negative sense (the decreasing variations) is qualified by the words *to have*. The other accounts serve instead the needs of the owners of wealth in itself and for itself, abstracting from its destination and referring each change to the particular subject which, having *to have* to the extent that the whole (the *corpo*) has offered to the other person, from that person it will also have *to have* for each increasing variation, just as will have *to give* for the decreasing variations. In brief: that which is *to give* for one person is represented as *to have* for the other, excluding naturally, variations in wealth which are compensated for. For example, a nominal credit of 100 florins, increased by 20 florins of interest, for which compensation is produced by the increasing variations of the money and the decreasing variations of the credits within the limit of 100 florins, the interest of 20 florins remaining open; on one side (that of the concern) this interest is still attributed to the money account (in the total sum of 120 florins) in the *to give*, and in parallel way it must be assigned to the owners of the corporation, under the heading *to have*.

In this way, the accountants of these concerns – who were, at least during the entire 14th century, also the general directors of the concern (and, therefore, the most interested in management) – in drafting the entries on the accounts, found themselves dealing – without artificiality – with entries equal in magnitude and opposite in sign. Since this doubling of *partite* (entry items) – this is the name by which the single entry was known at that time – inevitably came about from evidence drawn from the 14th century, the rules which these entries had to obey could be deduced, satisfying thus the conditions of a *method*. Some time later, from 1755, a theorist in the subject – the Livornese Pietro Paolo Scali – entitled his manual on accounting practices *Scrittura a partite doppie* (double-entries book-keeping) from which comes the more recent name – in the singular – of *partita doppia* (double-entry).

Keeping in mind that these techniques were genuinely developed, I think I can define such a method as that which is based on two series of accounts, reproducing, first, the condition of wealth broken up into four principal elements; and, second, the condition of wealth as a single sum – that is with reference to two contrasting subjects determined by the particular nature of the concern: the concern itself or its owners.

The establishment of double entry in the books of the concern is assumed by Werner Sombart as the ultimate basis of the statement of the capitalist firm.²¹ But, even in this sense, the adjective ‘capitalist’ does not concern me; my interest consists simply in the assessment of the evolution of the institution of accounting for the examination, rather more than of the level of development, of the foundation, of the origins, and of the development of the institution itself.

Since my inquiry develops with the sources and from the sources – in this case, account books – it has been possible to gather in the first place the *effects* of *cause* which has still to be identified (even if I have indicated it faintly, by recourse to Sombartian concepts): the effects are those which we have seen express themselves externally by *partite doppie* provoked, in their turn, by the duplication of the series of accounts, which constitutes therefore the basic factor in this extraordinary progress of the accounting technique.

But how did they arrive at the introduction of the new series

of accounts (at the *corpo* and at the 'advances and disadvantages') besides the already existing series (accounts of the various aspects of that *corpo* as it operated; I insist on repeating: goods, equipment, money and credits), which was in its turn – and this I have tried to justify – extended to the integration of the small part of credit accounts (and debt accounts) which were, also, depositories of that set of formulae – founded on the words *to give* and *to have* – which characterises all modern accounting?

The large number of accounts introduced by those men in the second phase (I have said that they had single accounts for lots of goods as already for each debtor or creditor) could satisfy the need to know the minute particulars of the continuous changes in the market fragmentation to which their wealth was subjected; but it was also necessary to be in a position to know with extreme speed and at any moment the behaviour of the wealth itself in its entirety, so as to be able to ascertain whether it was 'advancing' or 'disadvancing'; an assessment which, if it had been continued, comparing – by means of *saldi* (balances) – the values of all the items, would have needed days of work which would have meant the neglect of the essential activities. Now, if these businessmen accepted the necessity of appreciating and controlling step by step what was happening to their wealth, we deduce from this that they used new ways (and not the strictly routine ways of the past) to realise new aims (and not those of the past, which tradition had sanctioned by exact adherence), identifying themselves with the fortunes of wealth; one might say with its full value and with its exploitation for profit. It was sufficient, indeed, to sum the measures of 'advances' (from the column of the account *to have*) and to subtract from this sum the total of 'disadvances' (the column *to give*) to know – in a very short time – if the proposed objective was being realised; while, operation by operation, the yield of that part of wealth dedicated to each, which was defined as 'advance' or as 'disadvantage' or by the non-existence of similar variations (when, for example, a portion of 100 florins of wealth in terms of goods had become expressed in terms of money of the same value, that is, on the occasion of sale at par) was established.

Apart from the static account of the *corpo*, the account which was really an innovation was, then, that of the 'advances and disadvantages'; bringing about on the positive side, the full satis-

faction of the necessity of breaking even on the formation of the economic result and on its state at any moment, and determining, implicitly, a regularity in the accounting mechanism such as to generate a real and proper accounting method ('double-entry'). If the account of 'advances and disadvantages' had not appeared – the external manifestation of the above-mentioned need in terms of gain – it would not have been possible to produce constantly the doubling of *partite* (entries), in which the above-mentioned method consists; so that the other basis of the attitude of Sombart to the origins of capitalist enterprise finds, in that indisputable documentation, its full validity. The German historians had asserted that one cannot speak of capitalist enterprise (but I repeat: this adjective interests me only to a certain extent), if its accounting is not acquainted with *partita doppia*.²² I add that the statement of this binomial – 'capitalist enterprise' – 'double-entry' – is valid only for the initial stages of the evolution of the phenomenon of these subjects, since, once the uniformity to which the writings refer had been observed, the relevant rules, thus revealed, became common practice: and we find the double entry even in the accounts of artisan concerns and even in those of domestic-patrimonial firms, from at least the 15th century.

It was necessary to dedicate to wealth for its new purpose an account of its own, with the development of 'advances and disadvantages' no longer dealing with wealth which once belonged to the whole family and for which no account was defined, since it was directed only towards the satisfaction of elementary needs: but with that part which man had dissociated from the common family sum, so as to direct it towards a different, and wider, purpose. Each of these subjects – the *compagni* of the new concerns – certainly maintained administration of that quota of wealth which had remained in the family and for the family (always without feeling the need for an account to fit the *corpo*); but it is indispensable to follow distinctly the quota which was engaged in operations outside the circle of his relations, also because it was entrusted to an organisation which was deliberately established to employ it to advantage.

The 'person', concern or firm which was born from this circumstance made use of all these accounts which permitted him more efficiently to keep close the material handling of

wealth in its different forms; and by contrast – it is opportune to repeat it, conclusively – the owners of wealth had to be able to follow it as a single sum, that is, as they had in fact entrusted it to this organism.

The revealing accounting of this new 'world' is not only that of the synthesis of which I have spoken, from which the double entry emerged; there is also that constituted by analytical entries – called by some 'elementary' or 'preparatory' entries (as compared with those of synthesis, which were, in fact, definitive) – which makes an impression on us above all for the attitudes of the concern and its involvement in the calculation of *costs*. From this source, in the fullness of its characteristics, the important problem of knowing costs defines itself, in all the stages of their accumulation; up to the point of perceiving a sort of torment of costs and for costs.

Until today, this second type of accounting entry has not been taken into consideration by any scholar, because the specimens of it have not been preserved, even in the richest archives, with a few exceptions; but fortunately l'Archivio Datini di Prato allows us to gain insight into all the developments of this kind, including all those of particular branches of operation, apart from the entries of the common mercantile-banking firms, introducing us, that is, even into firms specialising in banking (with the *compagni del banco*, which is the only example of pure banking, also due to the Datini) and in the field of the *Arte della lana* (in this field we find records – never, however, with the completeness of the Datinian series – also in the archives at Florence and at Arezzo).

As for trading activities, which were predominant for a long time: they were devised from appropriate records with the precise objective of assembling the entries of the most minute factor of costs, which gradually became part of the sum of original costs; and this was the so-called *quaderno di spese di mercanzie* (copybook of expenditures on goods), where costs themselves were paid in cash and which is integrated in the *memoriale* (record), in the eventuality of payments which were deferred yet of the same type: in the sense of associating with each allotment of goods the related series of costs, principal and accessory. When the concern set about the sale of goods and it was indispensable to know the magnitude of total costs, so as to

judge the revenue which would have been derived from it, another marvellous mechanism came into play – the *quaderno di ricevute e mandate di balle* ('copybook of receipts and dispatches of packages') – in which the accounts in the other books were summarised, and subjected to integration with quotas of general costs; in such a way that, for each allotment of goods, the entity of wealth attributable to it was exactly circumscribed, as established by all the specific costs and by a part of the general cost. In this way, an accurate inventory was built up, not only of the elements of the first cost (which could be shown in production: for example the wool, at the moment at which the sheep was sheared), but also, as time went on, of the expenses of wrapping, loading and unloading, fiscal expenses, transport, insurance, brokerage, commissions, warehousing, etc. To these were added – with an accuracy made possible by experience, as being relevant to that particular lot of goods – the proportion of overhead expenditure, such as the rent of the premises used, payments to staff, amortisation of equipment, fiscal burdens, and so on.²³ The total of each of such series of costs was successively altered in the ledger book, in the appropriate account of that lot of goods, where the subsequent series of accessory costs would be gathered, always by synthesis, until the conclusion of the operation; after which, in the opposite section of the account, one went on to the entry of the profits, so as to conclude with the *pro* (advantage) or the *danno* (loss), located exactly in each operation (and it is useless to say that the economic result determined in such a way was immediately imputed to 'advances and disadvantages').

In order to make this subtle account apparatus more efficient, the concerns which expected to bear all these costs represented them in detail with special letters – the *estratti-conto* (extract of accounts) – which, on reaching the receiver, caused the elementary or analytical entries of which I have spoken to be recorded in his books.

Sometimes in ordinary correspondence, the use of the term *cost* appears in a more explicit manner because it is linked with the word *capital*; defining exactly that for a given operation there has been a 'capital cost' N, to signify that this has been the amount of capital invested in the operation under consideration. Then the word *capital* – which had been used for some time²⁴ – is

precisely used to indicate the wealth with which the concern is endowed, from which – according to the size of the *cost* – a fraction for a determined use is separated.

The examples which I could select from the authentic evidence established in thousands of letters are, naturally, very diverse and very abundant. But I will mention that each time a subsequent cost is determined, it is carefully considered only in connection with all the others accumulated until that moment, concluding for example *ragionate detti canovacci ci vengono di capitale, con le sicurtà, fiorini 162 buoni*,²⁵ alluding to the aggregate amount of wealth which would be absorbed by that operation.

It is not irrelevant that, in a very valuable ledger of the company of Baldo da Sancasciano of Pisa (1354–71) – which I will have occasion to discuss later – in the entry of the particulars of a trading affair consisting of the purchase of woollen cloth, there is reported, immediately below, the account of the banking aspects (the opening of a credit account accorded by a banker, to allow the Sancasciano to acquire that lot of woollen cloth) which concludes with a subsequent cost: the interest repaid to the banker. In short, trading and banking aspects become identified, so that it should be possible to arrive at the determination of the aggregate amount of wealth absorbed by that operation which, in fact, is a single one.

I will not linger on the accounting of specialised banking;²⁶ but I will go on to discuss some elements of that of the woollen industry, on which, to the evidence provided by the assorted series of records of concerns constituted by Datini in his own city, between 1384 and 1400,²⁷ I am now in a position to add that deducible from the entire series of the company of Francesco di Iacopo del Bene (1355–69),²⁸ of that of the company of Salutati-Serristori (1470–1),²⁹ of that of Salviati (1517–49)³⁰ and of that of the Medici of the *Selfridge Collection* at Harvard, 15th–16th century,³¹ all concerning Florence, and finally, the record of Lazzaro di Giovanni di Feo Bracci of Arezzo (1415–1424).³² The only complete series is that which the Datini set up with the *maestro* Agnolo di Niccolò di Piero di Giunta del Rosso (1396–1400), which presents the advantage of being able to fit into the framework of trading antecedents – of the supplies of raw materials and of accessories – and in the con-

sequent trading – of the allocation of the products; so as for the first aspect, to return to the shearing of the sheep and, for the second, to proceed to the threshold of consumption, with the sales at that instant also being represented.³³

The phenomenon of the formation of costs is contemplated there in an altogether surprising manner, given the precision of the allotments, manufacture by manufacture (which corresponds to the consideration of the single lots of goods of which I have spoken), proceeding to the integration of general costs and finally, to the subtraction of the threads which were eventually left over in the manufacture of the cloth (called *soperchi* – surpluses), which, naturally, were estimated on the basis of cost encountered until the completion of the manufacturing process where they had been incurred, that is, with the spinning.

For single stages or for groups of stages, there was a register which brought into evidence, simultaneously, the connection with the labourer (or with the artisan) who had offered his contribution (with the relative debt incurred in the ordinary personal accounts of the concern) and the cost located exactly according to such personal contributions and according to the phase (cutting, carding, combing etc.).

From this collection of books, costs were taken up again for totals of phases (in their turn, these were distinct for each process defined, which was properly defined as *imposta di panni* – so as to integrate them into the fulcrum of this analytical accounting, which was the book called *memoriale* (record) (completely different from that mentioned for the trading costs), where each page was reserved for an *imposta di panni*. Since each series of costs emerging in this way had at the top that of the raw material used, the assessment of costs could be made: and we, today, are in a position to estimate the structure of the industrial costs of that time, comparing it also to that of production today.³⁴ In the letters of these merchant-*entrepreneurs*, so shrewd and so advanced, we often read of considerations of total costs and of the factors of cost, which are re-connected to the quality of the costs produced, as to the possibility of placing them in the different markets; which would not have followed if they had not been provided with instruments of record, which were so accurate and so perfect as to make many present-day firms envious.

But, precisely, the fortunate circumstance of success in the stage-by-stage investigation of the entire wool circle has enabled me to study the costs of the same operation with reference to the quality of the product, which resulted principally from the quality of the wool used. And, at least from the end of the 13th century, one observes how those industrialists arrived at the establishment of differentiated price lists – according to the principle of multiple prices or price discrimination as a function of quality, in the sense of easing those which referred to less valuable workmanship; and they imposed this complex of rates on all the labourers, secure in their knowledge of the qualitative assortment of the operations and, moreover, of the possibility of reaching, at short intervals, an average weighted price which was fully remunerative. It is true that at the root of such a differentiation there is a greater use for rich cloths and a lesser for poor cloths; but the divergences caused by this are accentuated by the application of the well-known economic principle (which I will show asserted itself largely on other grounds) of the intention to make even the manufacture of poor woollen cloth profitable for the industrialist and to satisfy more extensively the consumption of the less well-off classes. The same criterion was adopted in the distribution of general costs, applying rates which were greatly inferior to the total costs of the poorer manufactures, which were themselves already lower than the others.³⁵

Only men who were so shrewd and so far-sighted were in a position to put into circulation a very vast qualitative range of woollen products and to bring them to distant markets, rich and poor; and this, in spite of competition, especially from Flanders and Brabant, which countries, since the middle of the 13th century, had introduced into the Mediterranean not only the very fine cloths of Brussels and Malines, but even those of medium quality from the new zone of western Flanders (the region of the Lys, with Wervik and Courtrai in the lead) which had supplanted the group of small towns in the north, led by Ypres.

Scholars' research in the industrial field, particularly that directed at understanding the ability of the cloths to overcome competition, would not have worthwhile results if they neglected all that took place during the stages particular to the

circulation of the raw material and during the successive stages particular to the progress of the cloths towards their sale; framing, that is, the inquiry itself in the complex mercantile phenomena. Always with the objective of contracting the factors of cost as much as possible, the big companies gradually eliminated – or at least conspicuously reduced – intermediaries, with their respective costs; taking into their own hands the long and complicated manufacture of the good from its condition of raw material and arriving at the conclusion of the sale: poles as far apart as Western England and the Middle East. In the event, the powerful associations located in England, like those, moreover, which acted in the 'Maestrazgo', in the Balearic Islands and in Provence, decided to effect the purchases of wool when it still clothed the sheep, and when it was not, moreover, defined as a raw material. In such circumstances, the reduction in costs was marked and would have made up for the eventual lower than expected returns, which, for similar concerns, which were in a position to operate over long time-spans, were then more worthwhile, resolving themselves precisely with an evaluation of the risks of loss – total or partial (the *moria* – plague – which decimated the flocks).

And this extensive inquiry, which covered all the events, always for extended periods, constituted a formidable weapon in the hands of these men, in their wonderful application to the basic problem of costs.

In essence, we have established how these merchants succeeded in dominating the industrial aspects of the composite change in goods, since they had assumed a conspicuous control of commercial acts, which, from the last years of the 13th century appears even more marked and above all integrated.

Such results were achieved by the gradual subordination of the auxiliary functions: beginning with that of transport, which plays a decisive role in the most important times of exchange, that is, from the point of view of circulation. I state in advance that this control of the function of transport could not take place except for the best of companies; and it is in these, in fact, that operated those men who were most tenaciously concerned with wealth and its exploitation. The availability of the most suitable documents – the general correspondence and the accounting extracts, with the accounting of synthesis and

analysis – which come to us in great abundance, is apparent particularly for the period which the documents themselves show to be decisive.

Often these companies, in the acquisition of voluminous and varied sets of commodities – singly or in association with others (and thereby multiplying their forces) – combined the act of navigation, hiring, for a voyage or for a period, one or more ships, to carry the entire complex of goods, which will be unloaded at various stages and replaced with new goods, which are also the property of the same concern. An example of some of the most extensive articulations of this kind is the use, in 1395–8, of a convoy of three Basque ships, on the part of the Florentine society of the Alberti of Bruges (connected with the sister firm in London and with other concerns in both these cities), which touched at Lisbon, Cadiz, Malaga, Valencia, Majorca, Pisa and Genoa, and then went straight to Rhodes, to Alexandria in Egypt and to Beirut, leaving in each port lots of goods and taking on board local products or those brought from the interior.

It is evident, above all, that there was an advantage in obtaining a more moderate charge, and moreover in being able to manipulate it, that is, to divide it and to apply it to different categories of goods, according to the particular advantage of the saleability of the goods themselves. In order to satisfy this fundamental condition of trade, the fragmentation and the attribution of the rates for cargo was performed in such a way as to load greater quantities of more valuable goods and smaller quantities of less valuable goods; since the predominant obstacle to mass trade was that of the pronounced rigidity of freight charges which made the exchange of poor articles uneconomic.

The evidence of the documents leaves no doubt as to the argument. Let us now consider the tariffs in operation about 1330, at the auction of the Venetian galleys destined for Bruges and London, according to which the freights expected by the Senate of the Republic for eleven goods of values between 1 and 16 oscillated as from 1 to 2; while the same evidence in 1390, approximately for the same goods and itinerary, although drawn from different sources, shows that this rigidity of charges was largely overcome, showing a variability from 1 to 10.5 with a

noticeable approximation to the values of the goods indicated above.³⁶

That this innovation was introduced at the end of the 14th century is irrefutably proved by the fact that several shipowners tried to resist the requests of the merchants to grant the new differentiated tariff, when they had to take on the transport of mainly poor goods; but then reflection convinced them that, in the course of a short period of time, an assortment of goods would appear in their ships sufficient to determine an average weighted charge reproducing the more or less constant charge of the past, and remunerative for them.

The cautious procedure of the differentiation of charges, so successfully applied at the time, conforms to the rule which today is called 'price discrimination' or 'multiple pricing', which is the principle which complies with the modern structure of tariff of all kinds of transport.

It might seem that 'our' merchant in the enjoyment of his wealth should not have drawn advantage from those tariffs which were adapted good by good, since he had contracted the profit which valuable goods once offered; admitting into exchange further goods, but which brought a limited revenue. One can easily retort, reflecting that those subjects, apart from the notable effect of having obtained from the compendious charge a general reduction in the charge itself, manifest a new side of their ambition: no longer exclusively the objective of gain for its own sake, but that of setting themselves up as innovators and leaders in the markets, a position which was reached by presenting themselves there with new goods and with the possibility of sale, by virtue of a cost which no longer involved a large increment in the disproportionate charge of transport. However, the economic result in a narrow sense – profit – was finally achieved even in the transaction of classes of less valuable goods; a notable increase in business activity took place.

As we have seen, commercial documents, in spite of the fact that they were of a strictly quantitative order – and such, therefore, as to lead only to conclusive expressions of profits or of losses in business – revealed the mentality and the direction of the subjects of these operations: thus, in the witnessing of the creation of 'advances and disadvantages' accounts (the end of the

13th century) we have seen a mentality strictly circumscribed to the objective of profit; a century later approximately, from the establishment of discriminatory tariffs in transport, we can deduce a refinement of the ambitions of the merchant, who, while nevertheless continuing to be directed by the profit motive, achieved this purpose by opening to all people the possibility of consuming a very considerable assortment of goods (and this to the particular advantage of the less well-off) of which the beneficial effects are, moreover, to be recognised by tracing back the commercial currents and arriving at the areas where production was intensified, and abilities, now more clearly defined, could be developed.

The establishment of mass trade represents one of the most relevant stages of civilisation, economic and general; precisely because it affected deeply, on the one hand, consumption, and on the other production; in the background of a significant intensification of exchanges, which brought about not only the diffusion of goods but also the increase in contact between men.

I do not hesitate to use the term 'revolution' – in an economic sense, certainly – both in the field of transport itself and in that to which it is immediately subordinate, that of trade, in which occur the several radiations already referred to; and all this is a result of the industry of those men, already 'new' in terms of the attitudes and the results which they had achieved since the last years of the 13th century, and, later, availing themselves of the dominant positions which they could attain with the weapons of wealth operating strongly in their hands, they devoted themselves to the good of society and to the beautiful (as well as directing themselves and giving themselves to patronage).

It does not matter to us if these subjects behaved in this way to achieve their own ambitions – of a personal nature and of a real nature (gain) – but we must establish whether or not that behaviour brought about something lasting and valid still today: I think that I have shown that the very efficient structure of prices of transport of today is still that which was progressively fashioned and established by the wonderful businessman of the late 14th century, which has been perfected and refined.

I must add – even though it is easy to deduce it – that the wise principle of the discrimination of charges was first introduced in

the sphere of shipping, since it constituted by far the greatest bulk of the traffic, availing itself of units of service – ships – which were incomparably the most abundant, and such, moreover, as to be able to accommodate a larger assortment of goods; and the principle gradually spread into internal communications, starting with those of rivers – and of lakes – and then taking root in land transport (with carts and with mules): a process which was almost completed by about 1425. In this way, the road systems in the interior grew. Among these, the most important were those made up of the long routes linking the Mediterranean and the North Sea, which depreciated also as a result of the opening up of the Gibraltar route (from the end of the 13th century). The most significant proof of the renaissance of communications of large radius on land is found in the return to the fairs of the inland regions; with the grandiose expression of the extraordinary flourishing of the fairs of Geneva, which indicates a sort of return to supremacy of inland communications over maritime communications – the fairs of Geneva already existed in the last years of the 14th century, but their development to international status began after 1425 approximately).³⁷

To conclude this section of the inquiry, it must be emphasised that wherever wealth had to be developed, it was necessary to guarantee the success of its investment, nursing it to the extent of considering and using the smallest source of assistance it required. And when the field of transport was ploughed and made fertile by tariffs on a modern structure, wealth could be used for new investments in all those goods which had in fact become transportable in a real sense.

I will try now to glance at the *banking* sector, concerning myself above all with the examination of the origin of the function of credit: an examination which we must not narrow to the man who gave out loans (who, if he did it professionally, was called a 'banker'), but which must evolve from the passive side of the operation; that is, we must dwell on the commercial firm which had recourse to credit, in such a way as to ascertain how the need for the financial help of others matured, and how this help, once accorded, developed.

The favourable results of so many operations – as is usual in any period of progress – reveal the opportunity and the

convenience of increasing the investment of wealth with new infusions of it: beginning with requesting it from the same members, the so-called *sovraccorpo* and then turning to strangers for 'deposits' of great magnitude and long-term. It is in this latter case that the credit nature of outside intervention became evident (while the *sovraccorpo* came exclusively from the members); it might happen that the sums obtained in this way were superabundant in magnitude and in time: then, the integrations of actual wealth would be provided for in each individual case, transferring the drawbacks of unproductive stoppages of wealth from themselves (that is, from him who had requested it) to those who retained it and offered it. In this way, for each occasion of investment there would be a financial cover, exact in magnitude and in time; and when similar distributions of wealth were repeatedly effected – we say today, as a permanent profession – the concern which possessed and handed over the same wealth could be called a *bank*.

The origins of the function of banking must be seen, I repeat, there where the demand for credit arises in connection with the actions which other concerns must perform: such a demand was provoked by the need to fill the momentary gap in one's own wealth, to satisfy the desire to draw in profits from any occasion for doing business. In short, these businessmen of ours managed to make even the wealth of others productive – wealth which they had appropriated in different circumstances, as an instrument, in fact, of the production of wealth for themselves – these men were put in a position, with that credit, to increase business activity, to which originally they had already given a valid consistency and a large return with the employment of their wealth.

The bank thus becomes an instrument of the firm in this new concept and its application – and, therefore, of the entire system which resulted from it (and which someone has called capitalist) – enabling it to expand its capital at every opportune moment, so as to reach the level of an authentic *economia di grandi spazi* (large-scale enterprise).

At this point, it is well to direct our attention towards the complex concerns, all dominated by the same subject, individual or collective, as I will clarify – in which the banking function of one of these firms must operate, or that of a specialised

banking firm, always however of the same category. Even in this ambit of the structure of the concerns, the process of self-assertion of the new institution passed through several stages, of which the initial stages are the most significant: the groups of concerns co-ordinated in a *system* form a real bank – according to the example of the Datini company of 1398, and of the later Medici company (but it is evident that such concerns already had recourse to the outside and continued to do so, in more directions, for single operations) – which, while it satisfied the needs of the sister firms, represented an instrument of the *holding* in the behaviour of credit to be extended to foreigners, with the possibility of controlling, of regulating, and of discontinuing it, all the more so because the smaller concerns fell again into the orbit of the system; they were also givers of credit, but subordinate to the bigger firms.³⁸

Insurance is also a product of the firm of this new type, which, gradually consolidating itself, shaped new expedients to safeguard wealth which had to be always and totally productive. The portion of it invested in the purchase of a good could be lost in transport: thus, then, the potential compensation for this developed through appeal to a third person. As in the case of the bank, in the case of insurance also the origins of the institution are concentrated in the passive side of the operation (respectively, the recourse to loans, with reference to the bank, and the insurance of the actual goods): the repetition and the concentration following upon such acts of the active subject, complete the picture, giving shape to the figures of the banker (as I have mentioned) and of the insurer, who from the beginning acted only as speculators.³⁹

In investment in land also, the new trend (which some author has called 'capitalist') seems to appear, distinguishing in the *corsa alla terra* (scramble for land), or rather in its utilisation, two stages: first, these investments have the purpose of establishing a basis of guarantee, which sows its fruits, likewise in the development of business, the acquisition of loans, which, in fact, require at that time a *real guarantee*; then, with the affirmation of 'trust' and therefore of the *personal guarantee* (I will speak of this shortly), this purpose was reduced somewhat, and at the same time we see the concern of the landlord to turn to account his 'possessions', reclaiming them, opening up new roads, endowing

them with irrigating apparatus, propagating new cultures and directing the products towards near and distant markets. Ultimately, it was always a question of a fragment of that wealth, which by now was all considered as a means of obtaining further wealth, even in its land aspect: the highest return had always to be raised, with the largest possible yield, to which then the merchant – with the above-mentioned mainspring of his ambitions, not only real ambitions – opened local and distant markets.⁴⁰

In the principal endeavours of the economic operations so far considered, I have been impressed, moreover, by one particular, which is certainly suggestive and which appears repeatedly in correspondence, and which nevertheless can be generalised, as a tendency which was by now widespread: the information which is given about people in similar occupations, with judgements on their solidity and solvency, and which is offered spontaneously or at the request of the recipient of the letter itself.

Those men who did not have the objective of increasing their own knowledge through these data did not see a basis in the need to protect themselves and to cover themselves in the event of entrusting their wealth to others (for sales on deferred payments and for concessions of loans, actions of great significance and of notable frequency), revealing yet again, if not quite an obsession with the care of their own wealth, at least an attention and a tension representing an involvement, a scrupulous dedication to it, so that no part need be removed or completely cancelled in the achievement of the purpose for which it was destined.

All this evidence with respect to organisms – from the structure of firms (societies with affiliations or ‘systems of societies’, dominated by the common participation of one of them) to the various branches of trade, industry, banking, transport, insurance, agriculture, etc. – and to the mechanisms for keeping a grip on the organisation itself and the operative complex, also reveal another aspect of the ‘innovation’ in the economic framework: that of the rationalisation of the firm, in itself and in its development.

The decisive factor in the greater efficiency in the achievement of these aims, with the continued control and the guiding action which above all was obtained with the instrument of

accounting, are due to the incalculable resources of study: the study of the background, of the men, of the means, of the combinations and of anything else which could illustrate an element of outline or a principal and immediate element in the affairs of their own wealth. Thus, it does not seem bold of me to maintain that even the great development of research – in really scientific terms – which is found in the modest field of economics, with the grandiose effects on which I have tried to remark, can be ascribed to these ‘new’ subjects of wealth and to its new ‘consideration’ and ‘destination’.

With this note I intend only to report the deductions towards which I have been led by the valuable series of documents available to me, questioning them all, and questioning them repeatedly: so as to hear the echo of the authentic voice, of the voice of these same men who were the architects of the operations and who made them manifest. Certain aspects of this article have already been presented by me on other occasions; but, returning to the same documents and to many others which I have been able to tie in with them, I think I have been able to consolidate my original convictions and to be in a position to expose them more extensively;⁴¹ others have matured, with the more profound consideration of the more far-reaching branches of economic life, always bearing in mind the relevant subjects.⁴²

The reader will decide whether those subjects (the firm, but always, above all, the men who constituted it) and the environment itself merit the definition *capitalist*: my objective was limited to the mere description of an economic ‘world’ which was totally and surely *new*, at least to the extent that it saw the rise of ‘new’ societies, in which are always implied the continuation and the derivation of the subjects and forms of the previous period, for which, unanimously, the term *artisan* is recognised as valid; in the same way we are equally sure of a collateral factor which can never be neglected: the chronological factor, since all these elements can be placed in a period of time which plants its roots at the end of the 13th century and achieves, then, its vastest and most definite expression in the second half of the next century, in full coherence – noting the beneficial effects which spread over all society – with the historic period of the Renaissance.

NOTES

1. I mention only these two great scholars – between whom numerous others have interposed themselves, and who have been followed by yet others – because it is to them that we owe the first original foundations of the whole problem.
2. A list of such studies would cover several pages. I limit myself to the mention of: L. Brentano, *Le origini del capitalismo*, Florence, 1968; E. Sestan, introduction to M. Weber, *L'etica protestante e lo spirito del capitalismo*, Florence, 1965; A. Fanfani, *Cattolicesimo e protestantesimo nella formazione storica del capitalismo*, Milan, 1934. One must not omit a recent article, written by the Master to whom this collection is dedicated: H. M. Robertson, *Marx, Menger, Mercantilism and Max Weber*, in 'Studi in onore di A. Fanfani', vi, Milan, 1962, pp. 439–66. A comprehensive, original and penetrating study relating strictly to the reality of the facts and, therefore, to economic history is that of F. Braudel, *Civilisation matérielle et capitalisme*, Paris, 1967.
3. With regard to such 'inclinations' of historians, there are, for example, some among them who prefer the official sources, others who prefer the notarial sources and others, finally, who prefer the commercial sources; in this last case, the accounting records lead one – according to the demonstration which I will try to provide – to attribute the birth of a firm which resembles a capitalist firm to the end of the 13th century, in Florence.
4. Among these who have concerned themselves with antiquity: G. Salvio, *Il capitalismo antico (Storia dell'economia romana)*, Bari, 1929. With regard to the periods closer to us, I must mention, above all, the economists; but also some historians of merit, like R. Romano, in his participation (in December last year, in Florence) in the discussion of the report on 'Firenze dal Medioevo ad oggi', directed by Dr P. Ugolini.
5. The consequences of the different sizes of firms are various and relevant: thus, for example, in the individual firms (which number at the most one or two dependants) all the persons must be engaged almost constantly in the practice of business; while in the big societies, the more numerous personnel, permitting a differentiation of tasks and of functions, led to the establishment of the directive function, which essentially signifies applications of study.
6. Romano – in the 'discussion' above – justly pointed out that the indication of a phenomenon by the putting of a *pre* before the description of the phenomenon itself would be equivalent to the preposition *post* before the substantive which refers to the antecedent phenomenon: that is, in our case, *post-feudalism* and *pre-capitalism* would be largely coincident and equivalent terms.
7. Studies reflecting the period 1350–1500 are really few in comparison with such a mass of Tuscan documentation: the greatest collections of texts – that of the Datini archives of Prato, with more than 150,000

letters and documents of every type and 600 accounting registers – had hardly been touched on until about 20 years ago, thereby allowing the most eloquent data in their field to go unnoticed by specialists. From this material I have written a first book: *Aspetti della vita economica medioevale (Studi nell'Archivio Datini di Prato)*, Siena, 1962, I, which will be followed in the near future by two others, heralded by some articles on navigation and transport in general, on banking and on commerce. Recently a work by R. de Roover has appeared: *Il Banco Medici dalle origini al declino (1397-1494)*, Florence, 1970 (which is the translation of *The Rise and Decline of the Medici Bank (1397-1494)*, Cambridge, Mass., 1963); but which, in spite of its vastness and accuracy, remains fundamentally a study of internal history, since the author is not concerned with the exhaustive exploitation of this Medici material (like the books of accounts of the operations; he has used almost entirely the *libri segreti*), nor of the numerous external texts, and still less of the last publications of other historians which have appeared during the interval of time between the two editions. As for the period before 1350, the only substantial works, if antiquated, are those of Davidsohn, while Saporiti limits himself to the edition of texts and to circumscribed studies of the internal histories of the firm, never facing the basic problems of commerce, industry, banking, transport, etc. Much more copious and substantial is the series of works which examine the other great Italian economic powers of the period – Genoa and Venice – in spite of the lesser availability and the more reduced effectiveness of the available documents in the respective archives (in Genoa, in fact, almost all commercial documentation is missing; while in Venice, the few accounting records, all from the 15th century onwards, are close to the bases of the *commissarie* which are commercial texts of every type although without structure).

8. On the contrary, these great concerns themselves recognised the attitudes of the *luoghi*, which then flourished remarkably under their applications: the eloquent example of the fairs of Geneva comes to mind; they already existed in their narrow, local scope, but some Florentine societies realised their potential international scope: and, in fact, succeeded in developing them in this way to an extraordinary extent. Their evaluation of Lyons was similarly conceived, always within this compass of the development of fairs; and when they decided to transfer themselves there, abandoning Geneva, the fate of this latter was sealed and Lyons knew an incalculable prosperity, becoming the focus of all the western economy.
9. It is noted that the most relevant commercial currents of the economic renaissance of the west, after the first Crusade, were those which were connected with the sea and involved going up the Adriatic and the Tyrrhenian and taking, therefore, a grip initially on the ports of those seas, and, a little later, on those of Provence and Languedoc and on those of Catalonia.
10. Thus an authoritative historian of the vigour of R. S. Lopez, in his report on the communal economy, presented at the Congress dedicated

to the ninth centenary of Pontida (Bergamo, September 1967), in course of publication.

11. This is clearly true of the great innovations – of an economic order, which brought with them those of a technological order – in the field of navigation, with which I shall deal later.
12. Such examples belong to the years 1211 and 1241 and have been illustrated by me and incorporated into the evolution of accounting and of the economy in general in the volume: *Storia della ragioneria, contributo alla conoscenza e interpretazione delle fonti più significative della storia economica*, Bologna, 1950, pp. 392–8.
13. Since all the concerns of that period were of small dimensions and, even transmitting themselves from father to son, did not have a long duration, their documents have easily been lost. The same examples of 1211 and 1241 have been saved only by the fortunate circumstance that the two sheets of parchment of which they consisted were used, folded, to protect precious manuscripts (the term *guardia* was used).
14. This ‘design’ had already been given a similar chronological arrangement by Sombart, for example; but it was extended too far forward, having included the 14th century and part of the following century, periods which the documentation which I shall call for this purpose indicates to be animated by ‘new’ subjects.
15. From now on, for brevity, in this term – credits – I shall include also debts, except for indications to the contrary. So as to avoid repetition I shall sometimes introduce the phrase ‘personal accounts’, since in them the *intestatario* is always a person (and in this way, the reference will constantly include debts).
16. This refers to registers belonging to the company of the Fini, which operated at the fairs of Champagne and to the company of Giovanni Farolfi, which operated in the centres of Nîmes and Salon. They are mentioned in my *Storia della ragioneria*, op. cit., pp. 481–90.
17. This account, called *libro dell'entrata e dell'uscita* (book of entry and of exit), will remain the same until the end of the 14th century: incorporating itself then in the single book which already contained all the other accounts and which was called *libro grande* (the big book) or *maggiore* or *mastro*.
18. Even with explicit references to the detailed record of the expenditures concerning each list of goods – referred to above – we have dealt with them superficially only, contrary to what I will now say.
19. Cf. *I libri di commercio dei Peruzzi*, ed. A. Saponi, Milan, 1934.
20. Cf. W. Sombart, op. cit., pp. 248–9.
21. W. Sombart, op. cit., pp. 251–7.
22. W. Sombart, op. cit., pp. 254–7.
23. On the very original procedure of the passage from the *quaderno di spese di mercanzie* (copybook of expenditure on equipment) and the *memoriale* (record) to the *quaderno di ricevute e di mandate di balle* (copybook of receipts and dispatches of packages), cf. my report, *La risoluzione contabile del problema dei costi mercantili nel secolo XIV*, in Atti del Congresso ‘Finances et comptabilité urbaines du XIII^e au XVI^e siècle’, Blanken-

- berge (September, 1962), in 'Collection Histoire', no. 7, 1964, pp. 279-86.
24. For example, in M. Chiaudano, *Studi e documenti per la storia del diritto commerciale italiano nel sec. XIII*, Turin, 1930, p. 187. This refers to the book of the company of Ugolini di Siena and the register dates from 1260.
 25. Datini Archives, Prato, no. 876, letter of 22 February 1395, from Genoa to Barcelona between the Datini companies of these centres.
 26. The only specialised bank is the *Compagnia del Banco*, which Francesco Datini established with Bartolomeo di Francesco Cambioni in 1398, of which the entire documentation has survived. Two of my distinguished pupils have transcribed and studied the accounting of synthesis and the papers sent by the director Cambioni to the eight centres of the merchant-banking concerns of the same Datini: L. Barilli, *Nel vivo della gestione della più antica azienda bancaria specializzata: la 'Compagnia del Banco' di Francesco Datini e Bartolomeo Cambioni, di Firenze (con trascrizione del 'Libro Grande segn. A', 1398-1401)*, Florence, 1965; G. Del Panta, *L'attività di un'azienda di credito della fine del '300 rivissuta attraverso la corrispondenza da essa indirizzata in Italia, Francia, Spagna (la Comp. del Banco F. Datini e B. Cambioni, 1398-1400, con trascrizione delle 530 lettere)*, Florence, 1969.
 27. This refers to a good eighty-three accounting registers, belonging to the companies of the Arte della Lana, those of the Arte della Tinta and other stages of the woollen circle (thus for the tanners, who included the cleaners, the fullers, etc.) apart from the consideration of several original combinations, where a *Maestro* (Master) worked as a partner: cf. my *Aspetti della vita economica medievale*, op. cit., pp. 459-94.
 28. The complete series of accounting books of this company and of the Arte della Lana is reproduced and illustrated in two doctoral theses: P. Stampi, *Ricostruzione della 'Compagnia di Arte della Lana' di Francesco di Iacopo di Franc. del Bene di Firenze: le botteghe, il personale stabile e gli approvvigionamenti delle materie nel 1355-1369 (con trascrizione del 'Libro bianco' e dei 'Libri cassa F, K e L')*, Florence, 1965; P. Degl'Innocenti, *Ricostruzione della 'Compagnia di Arte della Lana' di Francesco di Iacopo di Franc. del Bene di Firenze: il processo manifatturiero ed il collocamento dei prodotti nel 1355-1369 (con trascrizione del 'Libro lavoranti', 'Memoriale', 'Libro dei tintori', 'Libro delle lane', 'Libro della ragione di Napoli segn. B', 'Libro dell'entrata e dell'uscita')*, Florence, 1966.
 29. The book of dyeing of this concern has been transcribed and illustrated, but other related books have also been taken into consideration in the doctoral thesis of M. E. Simonetti, *L'attività dell'opificio laniero Salutati-Serristori di Firenze nel periodo 1470-1471 (con trascrizione del libro 'Tintori e lavoranti segn. A')*, Pisa, 1962.
 30. Three registers are dense with detail; these have been transcribed and elucidated by my pupils in their doctoral theses: L. Ellena, *L'attività della compagnia mercantile-industriale di Averardo di Alamanno e comp. in Firenze, nel periodo 1517-1528 ('Libro Grande paonazzo segn. F')*, Pisa, 1964; C. Ambrosi, *L'attività dell'azienda 'Piero d'Alamanno Salviati e compagni,*

- lanaioli in Firenze*' (1525-1532) (con trascrizione del 'Libro bianco segn. A'), Pisa, 1965; A. G. Piccardo, *L'attività dell'azienda di Piero Alamanno Salviati e comp.*, 'lanaioli' in Garbo, di Firenze, nel periodo 1538-1549 (con trascrizione del 'Libro bianco segn. A' e del 'Libro rosso segn. B'), Pisa, 1964.
31. On this series of documents, for the part concerning the woollen industry, cf. F. Edler (de Roover), *Glossary of Medieval Terms of Business, Italian Series, 1200-1600*, Cambridge, Mass., 1934, pp. 348-426. A study of the full woollen circle which is very clear and comprehensive is that of R. de Roover, 'A Florentine Firm of cloth manufacturers', in *Speculum*, xvi, 1941. After my spell of work in those archives, during which I was able to microfilm all the documents kept there, and also at the Istituto di Storia economica of the University of Florence, the total study of these records has been undertaken, of which the first essay has appeared to date, with the doctoral thesis of M. Misuri, *La figura del 'lanaiolo di Garbo' attraverso la ricostruzione della Compagnia di Francesco e Giuliano dei Medici* (con trascrizione del suo 'Libro grande rosso segn. A, debitori e creditori', 1534-1542, della Baker Library di Harvard), Pisa, 1970.
 32. For this concern, the analytical accounting is gathered in one register (where, however, the connection with the costs of raw materials is missing), which has been published and studied in a doctoral thesis: E. Corsi, *Un'azienda di Arte della Lana ad Arezzo: la Compagnia di Lazzaro di Giovanni Bracci, periodo 1415-1424* (con trascrizione del suo 'Libro di Bottega'), Florence, 1966.
 33. Given the fortunate circumstance of having at my disposal such a complete series of industrial texts, I was able to proceed to the integral reconstruction of this woollen workshop in my *Aspetti della vita economica medievale*, op. cit., pp. 495-634. Since this workshop operated within the limits of a system of merchant-banking concerns, my investigation could cover the commercial antecedents and consequences which headed these collateral concerns of the Datini, concerning myself in particular with the production of six pieces of cloth of wool from Minorca 'from the shearing of the sheep to the threshold of clothing' and arriving at the conclusion that, if the cost of the wool at the shearing of the sheep in the various localities of the island of Minorca was made equal to 100, it multiplied itself to 713.12, when the cloth - made in Prato - was sold in the nearby island of Majorca and at Valencia. Cf. op. cit., pp. 635-727.
 34. For example, the structure of costs of wool manufacture of the period 1396-1400 appears as follows: for raw materials, 38% of the total, for the transformation, 62%. Today, however, the rates relating to raw materials have remained more or less unchanged (37%), those relating to the manufacture have been contracted considerably (they have fallen, in fact, to 33%), so as to leave room for almost completely new costs - such as fiscal, social and financial costs - which take up the remaining 30%. The representation of two relevant aspects of the evolution of civilisation is marvellously contained in these few data: on one side, the advent of the machine - typical realisation of contemporary civilisation, in the field of technology and industrialisation - which succeeded in squeezing the real and proper cost of industry to less than

two-thirds of that of the medieval workshop; and parallel, the satisfaction of the needs which gradually manifested themselves, for strong civilising action. Cf. my op. cit., pp. 560-2.

35. The investigation of the company of the Arte della Lana of Datini, to which I refer, is very expressive, partly because operations were performed for all types of wool, which then graded themselves in a decreasing order of value: English, Minorcan, Majorcan, Provençale, various mixtures of these, from the province of Romagna (that is, from the section of the Appennines of Tuscany and Romagna). The general costs were imputed on the basis of the wise criterion which is reflected by these respective percentages of incidence on the cost of manufacture: 9·00, 9·71, 11·24, 10·67, 7·94, 11·31, 3·86, 4·03; while, for the total of operations an average percentage of 9·90 resulted. As I wanted to demonstrate, for the poorer wools (those of the Italian Appennines) the percentage rate is very low, since it was a question of applying it on very inferior bases (which are of the order of 19·77 for work on English wool, as against 3·97 for work on wool from Romagna or Barbaria: that is, a ratio of 5:1); cf. my op. cit., p. 557.
36. Other significant data are even more eloquent in their representation of these two situations: the variability of the incidence of freight charges on the value of the good, which formerly meant a gap as from 1 to 11, was contracted within narrow limits from 1 to 2·30: and, in fact, the gap of such variability must tend to zero.
37. These fairs, like all the economy of Geneva in the Renaissance, are fruitfully studied by J. Bergier, *Genève et l'économie européenne de la Renaissance*, Paris, 1963.
38. By *holding* we mean, as has been noted, a society which participates in the capital of all the others in the group, forming in fact, with such a device, a *system of concerns*. The most remote example is indisputably to be found in the Datini complex; when this businessman established his company at Florence, with the same he shared – in a position of supremacy, it is obvious – in the capital of the new companies founded, in order of time, at Pisa, Genoa and Barcelona (which had branches at Valencia and Palma in Majorca). Cf. my op. cit., pp. 173-279. R. de Roover (*Il Banco Medici dalle origini al declino*, op. cit., p. 119) is not of this opinion; he supports the opinion of Saporì (shown in 'La Banca Medici', in *Moneta e Credito*, no. 8, 1949, pp. 7-8); but neither of these scholars has seen the Datini papers, or (at least, not de Roover, who wrote after my op. cit.) my lists in this context (loc. cit.), with the precise indication of the sources.
39. Jacques Heers, who also successfully studied insurance, in his general conclusions holds that 'among the techniques which, towards the end of the Middle Ages, prepared or marked the advent of modern capitalism, maritime insurance holds, without any doubt, a place of prime importance': 'Le prix de l'assurance maritime à la fin du Moyen Âge', in *Revue d'Histoire économique et sociale*, 1959, p. 7.
40. These impressions of mine about agricultural investments have found substance in investigation, extensively developed, of the activities of

more than a few operators of this rank (for the Datini, study can be fully exhaustive), by means of the most suitable documents, among them the specialised books of their 'possessions'; but also – I must repeat – that everlasting source of decisive data, which is represented by commercial letters.

41. I have been able to do this for the theme of the origins of 'double entry' with the *Aspetti della vita economica medievale*, op. cit., pp. 391–424.
42. The subject of the bank, already tackled with my *Note di storia della Banca pisana nel Trecento*, Pisa, 1955, has been taken up and simplified by me, on the basis of the supply of recent and vast documentation, as will appear in the second volume of my *Aspetti, etc.*; I have dealt at length with the problem of the economy of transport (especially maritime transport) in the article 'Werner Sombart e i problemi della navigazione del Medioevo', in *L'opera di W. Sombart nel centenario della nascita*, Milan, 1964, pp. 87–149; an extended volume, furthermore, on aspects of insurance is soon to be published: *Origini e sviluppo delle assicurazioni in Italia (secoli XIV–XVI)*.

7 Retardative Factors in French Economic Growth at the end of the *Ancien Régime* and during the French Revolutionary and Napoleonic periods

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OF the many puzzling questions in European economic history few can be found that are more tantalising than that which asks why French economic growth was so slow in the early phases of the Industrial Revolution. Indeed, the question of French retardation or, if one will, 'of no French take-off', may be rated as second only to why economic growth in England was so rapid in the last decades of the 18th century and the first decades of the 19th.¹

In the pages which follow an effort will be made to identify the major factors of retardation in the French economy just prior to and during the French Revolutionary and Napoleonic periods. This identification will be accomplished by means of an analysis which eschews monocausal explanations of development on the ground that no simple description of what is very complex can possibly be true. Economic growth seems to have resulted from the coming together, with a propitious timing, of a great number of factors whose quantities and qualities are identifiable. This conception of growth, determined by the conjuncture of necessary concomitants, comes closer than any other to make historical data intelligible and to meet the

demands of theories of growth. It acknowledges both the complexity of the phenomenon of growth and the possibility of a multiplicity of patterns of economic development, and of its antithesis, economic retardation.

In the time-span which we have selected for study the economic history of France stands in sharp contrast to that of England, for the English economy surged forward, but that of France stood almost still. That this should have been the case would have seemed almost incredible to an observer of the scene before 1789. At that time France undoubtedly had the largest gross national product of any state in Europe; it had, with the possible exception of Russia, the largest population of any organised political body; its foreign trade, if one may believe the very unreliable statistical information available, was equal to or superior to that of Great Britain; and it could field armies the match of anyone, which gave it a position of eminence in the power complex of the time. After the French Revolution and Napoleon, however, the gross national product of Great Britain is thought to have surpassed that of the French and on a per capita basis to have been much greater. The populations of certain states, like the Germanies, were larger than that of France and population rates of growth in them were notably higher. French foreign trade had declined to such a point that French exports did not exceed those of the pre-1789 era until the middle of the 19th century. And the French had lost so much ground militarily and diplomatically that their position of power was greatly diminished, as Napoleon III was to prove so dramatically.²

The fundamental reason for the failure of France to keep pace with its neighbour across the Channel is clear enough – France did not adopt the new agriculture as rapidly as did England and, more importantly, it did not mechanise its industry at a competitive rate. The reasons for this failure are our concern.

The traditional explanation for France's slipping behind in this crucial period has been that the French were ignorant of the methods of production and of the new machines which were being employed in England; that England had coal and iron deposits which were richer and were more strategically located for low-cost operations than those of France; and that England had also a large *entrepôt* trade, especially in cotton, which pro-

vided it regularly with one of the crucial raw materials for that sector of the economy which was growing at the fastest rate. This explanation is not without considerable validity, but the very simple model of growth which is inherent in it needs to be made more sophisticated and the facts themselves require a certain amount of qualification.

So far as the supply – and the price – of cotton was concerned, the English did have some advantage over the French after the defeat of the latter in the Seven Years War, but significantly French cotton textile manufacturers do not seem to have complained about having been under a handicap in this regard until after the outbreak of the Revolutionary wars. Moreover, the French had as good a chance of growing cotton in their West Indies as did the English and of getting raw cotton from the American mainland, and one may ask why they were not more active in attempting to do so. In so far as iron and coal were concerned, the English did have a decided advantage, for most French coal was of a poor variety for coking and the country's main iron deposit was in Lorraine, which was not near coal nor on waterways that would permit the transport of ore at low cost. Besides, this ore had so much phosphorous in it that it could not be smelted efficiently with the new methods.³

In the matter of French ignorance of the English industrial techniques which were being developed, a serious caveat must be introduced into the argument. As a matter of fact, the French appear to have learned very early about the English inventions and to have realised their importance. Sometimes information about a new machine or method of production was brought across the Channel by inventors themselves in the hope that they could build up a market for their find on the Continent. Sometimes word of what was new was carried to France by workers who wanted to cash in on their knowledge and their skills. And sometimes the information was diffused by *entrepreneurs* who, like John Cockerill of Liège, specialised in learning of the new techniques and in the manufacturing of the machines in Europe itself.

For its part, the French government was aware of the importance of the new techniques and early conceived a policy of getting details about them to France. Bonuses were given to English workers who would come to France and teach their

skills to the French. Subsidies and subventions were provided to *entrepreneurs* who would set up shop on French soil. Industrial spies, some of whom were caught, were sent abroad to discover what was new and to entice foreign workers and businessmen to France. The iron works and manufacture of cannon at Le Creusot were set up by one of these spies, Gabriel Jars, and by one of the Englishmen, William Wilkinson, who was the brother of the famous John Wilkinson, whom he brought to France. Constantin P  rier, a French *entrepreneur*, received governmental support for setting up a Watt steam engine at Chaillot in Paris between 1779 and 1781, and seems to have had some success in building other engines. Such examples could be multiplied many times, but that the French were not ignorant of much that was going on in England can be brought out most forcibly, perhaps, by a study of the many volumes of plates of new machines which are to be found in the *Encyclop  die* edited by Diderot and D'Alembert. In brief, it would seem that the lack of economic growth in France in the period under consideration cannot be attributed in any large degree to the contention that the French did not have technical information about the new means of industrial and agricultural production.⁴

If, in truth, the French economic retardation of these years cannot be explained by a lack of knowledge of the new machines, our search goes of necessity to other factors of growth. Indeed, the very fact that the crucial innovations of the Industrial Revolution came from England rather than France would suggest that the total environment for growth was more propitious across the Channel than on the Continental mainland. One of the possible hypotheses to consider at this juncture is whether or not leaders in French society, especially those who had capital which they might place in industry, were actually attracted to this kind of enterprise and entered it with the same kind of enthusiasm as the English. A considerable amount of evidence can be marshalled to support the contention that the French lagged far behind the English in these regards; for example, French nobles lost their titles of nobility if they engaged in most industries or in commerce, except trade on a large scale. Inasmuch as they were practically excluded from those sectors of the economy which were growing fastest and, in agriculture, shunned participation in the productive process but

lived off dues owed them by peasants, the highest placed in society were largely eliminated from entrepreneurship. This being the case, they went into governmental service, into the Church or into the army or navy. All ministers of state, except one, in the last quarter of a century before the Revolution were noble. Every archbishop and bishop before 1789 came from the nobility. In 1781 the rule was laid down that all commissioned officers in the army and the navy must be of the *old* nobility. Even younger sons in a noble family did not go into business, unless it was to manage the estates of an elder brother, for such a step was considered to be degrading.

The chief forms of economic activity, other than farming, which the nobles might enter without a loss of face, were tax farming,⁵ distant commerce or banking. Tax farming they regarded as a means of making gains upon which they could live rather than of making a profit for investment. Distant commerce had fallen upon hard times after the French were thrown out of India and attacks had been made on all the privileged trading companies, like the French East India Company, so this offered few opportunities. Banking, for its part, was limited in the France of the *ancien régime* largely to commercial banking and this to a very small group of persons, frequently to only the partners in the bank. Long-term loans for industrial purposes were rare and what long-term loans there were usually were made to the government. In an age of many wars and profligate spending by courts, such loans were not conducive to economic growth and, in addition, were very poor risks. Furthermore, one should remember that after the John Law System, which collapsed in 1720 under an avalanche of paper money, France had no bank for the issuing of banknotes until the Caisse d'Escompte was opened in 1776 and this bank, founded incidentally by a Scot and a Genevan, hardly got under way before it was made to loan heavily to the state.

Noble *entrepreneurs* had one outlet for their energies and their capital which seemed to be attractive to them: that was real estate, especially in Paris. One of the outstanding examples of such activity was the Duke of Orleans' redoing the Palais-Royal with its theatre, its many stores, its multitude of apartments and its interior gardens. In addition, nobles constructed a number of important town houses, such as the Hôtel de Soubise, now

the Archives Nationales, the Palais-Bourbon and the Hôtel Biron. Also the 18th century witnessed the construction of the École Militaire, the Place Louis XV, which is the present-day Place de la Concorde, the Halle au Blé now the Bourse de Commerce, and the Champ de Mars. In all, 10,000 houses were built in Paris in the last thirty years of the *ancien régime* and approximately one-third of the city was constructed. In the provinces this craze for building caught on, too, and resulted in the construction of such well-known monuments as the royal squares of Rennes, Nancy, Lyons and Bordeaux. Unfortunately most of this activity did little to increase the productive capacity of the country, but fortunately it was done under the guidance of great architects, like Gabriel, Delamair and Bouffrand, who left a mark on the cities of France which is still in evidence.

Wealthy commoners appear also to have been reluctant to go into industry, new style. If they were guild masters, they were anxious to retain the monopolistic position which was theirs by royal privilege and by tradition; and, for the most part, they were satisfied in retaining the handicraft methods of production which had come down to them through the ages. If they were outside the guild system, they were freer to adopt mechanised techniques, but the initial capital required was greater than it was in England because of the difficulties in getting plans for the construction of machines, or the machines themselves, and because the opportunities for making quick profits that could be used to amortise the first costs or to expand plants were less great.

In any case, commoners seem to have preferred going into agriculture on a profit-making basis than into industry. The ideal way of life of a wealthy Frenchman in the 18th century was to live like a 'gentleman' on the land; that is, to live like a nobleman. The 'bourgeois dream' was to have so much land that one could enjoy a good standard of living from it with very little personal physical exertion.⁶ The realisation of this dream was abetted by the fact that when the *bourgeois* bought land they were entitled to continue to collect whatever dues were customarily paid to nobles by peasants for the use of individual holdings. If their dream was only partially realised, the *bourgeois* found that farming could be profitable, especially near large towns or on waterways that permitted the transportation of foodstuffs to market. Precisely in such areas, moreover, were

to be found the largest number of tenants, known by the confusing name of *fermiers*. Farming by commoners was very extensive in France in the 18th century. They appear to have owned, at least by one estimate, as much of the cultivable land as the nobles (25% of the total), whereas the clergy owned but 10% and peasants had the right to work, upon the meeting of certain obligations and the payment of dues, 40%. If, however, *all* land, including forests, waste lands and mountains, is taken into consideration, the proportions are considerably different, with the nobles holding some 40%, the clergy 20%, the peasants 30% and the *bourgeois* 10%.⁷ Clearly wealthy commoners were putting their resources into farming for profit.

Although it may have been logical that in an economy in which 68% of the active population was engaged directly in farming that commoners should have gone as heavily as they did into agriculture, the fact remains that their doing so deprived industry of much-needed capital. This was of considerable importance, when added to the boycott of industry by nobles, in understanding why France did not adopt the new productive techniques so rapidly as did England. One can see from Table I that those with wealth in the France of the 18th century were the very ones not going into industry. The data presented in the table were derived from marriage contracts drawn up by notaries to stipulate the amount of dowries and of inheritable wealth to be expected. Inasmuch as such contracts were made among the relatively wealthy but not among the poor, this information should not be taken as a statement of the distribution of all wealth in 18th-century France. It describes only the distribution of wealth of those who were in a position to make investments, but as such supports the contention that wealth was not largely in the hands of those who would enter industry.

Possibly nobles and rich commoners refrained from going into industry not only because of traditional taboos, a desire for an easy life and the joys of country living, but also because opportunities for profits from industry were less great in France than in England. Certainly a money economy was less developed in France, as is witnessed by the fact that no bank for the issuing of generally acceptable banknotes existed until 1776, whereas England had Bank of England notes as a medium of

Tab
Socio-professional groups and t

	100	100	200	300	500	1000	2000	
Guild workers (<i>compagnons</i>)	1 50	11 61.1	16 53.3	58 44.9	112 33.8	122 26.6	78 17.4	1
Soldiers and non-commissioned officers	— —	1 —	1 3.3	1 0.7	5 1.5	3 0.6	5 1.1	
Domestic servants	1 50	2 11.1	1 3.5	26 20.1	56 16.9	86 19	89 19.4	4
Semi-skilled workers	— —	— —	2 6.6	3 2.3	7 2.1	16 3.5	15 3.3	
Trade workers of undetermined status	— —	1 5.5	4 13.3	10 7.7	55 16.6	57 12.4	35 7.8	
Salaried employees	— —	— —	— —	2 1.5	6 1.8	7 1.5	8 1.7	1
Guild masters	— —	2 11.1	3 10	19 14.7	48 14.4	115 25.1	151 33.7	9
Tradesmen	— —	— —	— —	1 0.7	— —	— —	5 1.1	
Liberal professions	— —	— —	2 6.6	2 1.5	6 1.8	5 1.1	12 2.6	1
Civil servants (commoners)	— —	— —	— —	— —	— —	4 0.8	8 1.7	
Military officers (commoners)	— —	— —	— —	— —	1 0.3	2 0.4	2 0.4	
Bourgeois without profession	— —	1 5.5	1 3.3	7 5.4	35 10.5	39 8.5	39 8.7	2
Nobles	— —	— —	— —	— —	— —	1 0.2	1 0.2	
Total	2	18	30	129	331	457	448	221

Table from Adeline Daumard and François Furet, *Structures et relations sociales à F*
roman type indicate the number of cases involved. The figures in italics are

alth in Paris before the Revolution

	15,000	20,000	30,000	50,000	100,000	200,000	300,000	500,000	1,000,000	Unknown	Total
	1	—	—	—	—	—	—	—	—	36	456
	1.8	—	—	—	—	—	—	—	—	—	—
	—	2	—	—	—	—	—	—	—	2	25
	—	3.8	—	—	—	—	—	—	—	—	—
	3	2	1	—	—	—	—	—	—	36	354
I	5.5	3.8	1.7	—	—	—	—	—	—	—	—
	1	—	—	—	—	—	—	—	—	—	47
	1.8	—	—	—	—	—	—	—	—	—	—
	1	—	—	1	—	—	—	—	—	15	190
I	1.8	—	—	2	—	—	—	—	—	—	—
	2	3	2	1	1	—	1	—	—	9	61
2	3.7	5.8	3.5	2	4.3	—	7.1	—	—	—	—
	27	21	23	7	—	—	—	—	—	11	560
8	50	41.3	41.4	14.5	—	—	—	—	—	—	—
	—	2	1	1	4	—	1	—	—	1	18
	—	3.8	—	2	17.3	—	7.1	—	—	—	—
	1	5	5	5	5	4	—	—	—	15	78
2	1.8	9.8	8.9	10.4	17.3	—	—	—	—	—	—
	4	3	9	11	5	2	—	1	—	2	65
2	7.4	5.8	16	22.9	21.7	40	—	9	—	—	—
	2	2	1	2	—	—	1	—	—	10	31
I	3.7	3.8	1.7	4.1	—	—	7.1	—	—	—	—
	10	7	12	7	2	—	2	—	—	17	213
2	18.5	13.7	21.4	14.5	8.6	—	14.2	—	—	—	—
	2	4	1	13	7	3	9	10	2	9	67
I	3.7	7.8	1.7	27	30.4	60	64.2	91	100	—	—
	54	51	55	48	23	5	14	11	2	163	2 165

VIII^e siècle (Paris, 1961). Cahier des Annales. Figures in the vertical columns in percentages of each socio-professional group in the various wealth categories.

exchange from the end of the 17th century. Moreover, France did not have in the 18th century a canal-building boom commensurate with that in England and hence its internal transportation system was decidedly inferior to that of its neighbour. Then, too, foreign demand was much less per capita in France than in England, which meant that it was easier to supply needs by time-honoured methods. In a similar way, demand in France was much less concentrated in specific areas than it was in England, as in London and most of the great ports, and was not so sharply focused on certain products needed by oversea settlers, like builder's hardware, firearms, ship's supplies and cheap clothing. How crucial such concentration was in the development of a division of labour and the introduction of machinery was observed at the time by Adam Smith.

Even though conditions in France may not have been so propitious for the development of mechanised industry as in England, numbers of *entrepreneurs* in France did enter into capitalistic activities of various kinds and some of them did well up to the French Revolution. Curiously enough many of these individuals seem to have been of foreign origin, which would tend to support the notion of the lack of entrepreneurial spirit in France, but not enough cases have been studied to permit even a serious guess as to the role of foreign-born in leading enterprises. Yet, we do know that Scots and Swiss were very active in banking circles and that somewhat later they were joined by Jewish bankers.⁸ Also many English came to France to engage in the textile and metallurgical trades. Some were attracted by governmental subventions of one kind or another; others migrated because of political troubles; and still others moved in the hope of profits. There was John Wilkinson, to whom reference has already been made; John Holker, a Catholic who fled from Scotland after the Jacobite uprising and who set up a cotton textile plant in the Rouen area; and Pickford and Milne, who went into the production of textile machinery. Germans and Belgians also drifted across the French frontiers and one of the former, Christopher Oberkampf from Bavaria, became famous for his establishment at Jouy-en-Josas for making textile prints of pastoral scenes.⁹

The mechanised industry which did get under way in France prior to the Revolution ran into a deep economic crisis from

1787 to 1789 that did it considerable harm. This famous economic crisis came about largely as a result of the high prices of foodstuffs, which in turn are to be explained by poor agricultural conditions. Food prices rose from a base of 100 for the period 1726-41 to an index of 166 in the years 1785-9, but for 1789 they were almost twice what they had been in 1786 and in June-July of that year they were two-thirds more than they had been earlier.¹⁰ The trouble began with a serious drought in the summer of 1785, which caused such a shortage of hay and pasture that an inordinately large number of livestock were slaughtered. With the large supply of meat, prices foundered; and when they rose, farmers had few animals left to be dressed. Then in 1787 there were hard rains followed by floods; and in 1788, so far as grains were concerned, there were freezes and hail storms in the crucial month of July. Crops were exceptionally short throughout most of France, about one-half those of normal times; and what was of especial importance was that the difficulties were nation-wide, that is, twenty-seven of thirty-two intendancies were affected.

Such high prices as existed in 1789 fell heavily on city dwellers, who had to buy all of their food, and were particularly burdensome for city workers. It has been estimated that two-thirds of the budget of a city worker with a wife and four children went for bread and that when prices reached their peak in July 1789 98% of the worker's wage went for food. Under such circumstances it is little wonder that pillaging of food stores and of food transports was frequent in the winter and spring of 1788-9 and that social problems were mixed with political ones when the Revolution began.

Contrary to what one might think at the outset, these high prices did not work to the benefit of peasants. After they had taken out of their harvest what was needed for their own consumption and for seed, they had precious little to sell on the market. In fact, only large producers or those who received large payments from peasants in kind could profit from the high prices. They had surpluses beyond their own needs and they could afford to hold their supplies off the market until the peak of seasonal prices was reached. By following this procedure, however, they were accused of hoarding and became the object of severe criticism and physical attacks.

Peasants, small *fermiers* and casual farm labourers were so hard pressed that they tended to postpone the purchase of industrial products, as did urban workers. With this reduction in demand, those who produced industrial goods for market had to cut back their outputs, and such decreases in activity caused urban unemployment, and the unemployment led to urban discontent among wage earners. Under the circumstances, it is not surprising that popular elements of the population attacked industrial workshops in 1789, like the wallpaper plant of Réveillon in Paris. Nor is it astonishing that the number of business failures increased in this time of crisis, especially at Rouen and in Upper Normandy, where the new textile machines had been introduced most successfully. Indeed, it is said that bankruptcies doubled in this region from 1784 to 1789.¹¹

If a French *entrepreneur* who had embarked on a policy of mechanising industrial production in the late 18th century was able to weather this storm of 1788-9, he then had to face poor times which accompanied the Revolution itself, especially those of 1793-4. If he got by them, he then encountered the trials and tribulations of the long wars and of the Continental Blockade. In fact, not until after the Battle of Waterloo were economic and social conditions such as to be conducive to economic growth. It is a wonder that French industrialists did not become thoroughly discouraged in the interval.

That France should have had such a long period of turmoil that hampered economic growth is surprising in that the Revolution is nowadays usually regarded as a triumph of the *bourgeoisie* and reason would suggest that the wealthy would have created a regime congenial to their interests.¹² Of course, it is true that relatively wealthy commoners got political power during the Revolution. In the various elections suffrage was limited to those on the tax rolls, and for some, voters had to be paying appreciable amounts of taxes. Furthermore, in all elections, except that for the Convention, elections were indirect, that is, voters chose delegates to electoral colleges and these electoral colleges chose, in turn, representatives to the legislative bodies in Paris. Such a procedure provided an opportunity to eliminate the poor, for electoral colleges met in chief towns of districts and to cover the costs of attendance was more

than most persons could afford. Lastly, it should be remembered that in those days members of legislative bodies were not paid and this tradition made it impossible for the less well-to-do to sit in them. What the poor did was to pressure legislatures to act in their favour.

The strong position of the wealthy in Revolutionary governments is reflected in a mass of legislation which aimed at creating conditions which would be conducive to economic growth. The Declaration of the Rights of Man and the Citizen of 1789 gave private property the 'sanctity of natural law'. Le Chapelier Law of 1791 forbade strikes and all consorting of employees in a given establishment or trade regarding conditions of work – rules which were not abrogated until 1864 and 1887. France was made a customs union and a monetary union. A uniform system of weights and measures was established which was far superior to any existing system. Trades were open to everyone (Allarde Law of 1791), which meant that all guild monopolies and restrictions were done away with. Lastly, all privileges that established inequalities in the matter of taxation were abolished.

In spite of such changes, the rich did not have everything their own way in 'making France safe for the businessman'. In the first days of the Revolution workers supported the *bourgeois* in abolishing abuses of the *ancien régime* and logically enough expected to profit from their efforts by getting some sort of social reform. Similarly, peasants who had revolted against noble landowners in the summer of 1789 hoped to obtain clear title to the lands, which they had had the right to work, without the payment of any indemnity – a hope which was not realised until the government in Paris needed their support in the civil and foreign wars of 1793. Moreover, they wanted to be able to buy land confiscated from *émigrés* and the Church on terms which they could afford.¹³ Thus the *bourgeois* in power always had an opposition from below that took an inordinate amount of time and energy which otherwise might have been devoted to economic matters.

In addition to dealing with such pressures from the 'people', the *bourgeoisie* spent much of its time and strength on internecine strife, for various factions within the class, if one may call it such in spite of its lack of homogeneity of any kind, were badly

divided on national policies. Indeed, it is not too much to say that 'struggles within the class' were more serious and more bitter during the Revolution than struggles between the classes. In the fight for power among *bourgeois* groups during the Terror, heads rolled first from one faction and then another. *Entrepreneurs* were inevitably caught in this strife, and even if they were not among the 33,000 victims they certainly spent a considerable amount of time in hiding or in jail.¹⁴ What this may have done to economic growth no one can say, but it certainly did it only injury.

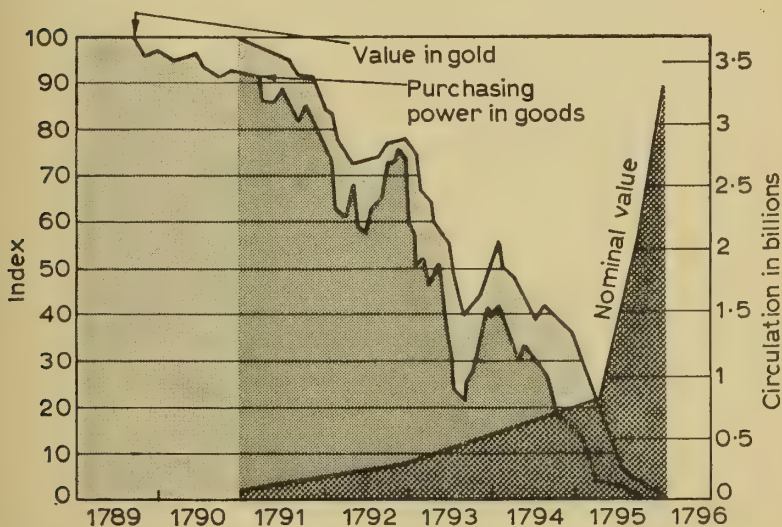
With the overthrow of Robespierre and the end of the Terror, both engineered by wealthy plotters, many expected that a return to internal peace could be achieved, but such was not to be the case. Factions of the well-to-do continued their struggle for power during the Directory and eventually so weakened themselves that a group of social reformers seemed to be getting the upper hand. In this crisis a new set of *bourgeois* plotters decided to try to overthrow the regime and to set up a strong ruling clique which they could control. To this end they selected Bonaparte as their strong man, although he was not their first choice, and for a time it looked as though their long-range scheme would succeed. 'Order' was restored; peace was soon re-established; a law code was introduced which favoured them; and several institutions to help business, of which the Bank of France is a good example, were created. In Napoleon, however, the business community soon discovered that it had a master rather than a servant. It supported him only so long as he was able to make war pay, and then, about 1811, it deserted him.

If the *bourgeois* had trouble in maintaining their political power in the Revolutionary and Napoleonic periods, they had equal difficulty in liquidating one of the worst situations which they inherited from the *ancien régime*, namely the mess in public finance. The large debts which had been built up and the extravagant expenditures of the court could not be covered by the existing tax system and by 1789 sources of borrowing had been dried up. At this point recourse was had to inflation.

The inflation of the Revolution began, like most others, in a modest way. The state went to the Caisse d'Escompte and borrowed banknotes backed by its promises to pay. Such a step

was reminiscent of the John Law fiasco and could not be carried very far. At a crucial moment, when tax revenues were not coming in because of Revolutionary events, a decision was reached to seize Church lands which were valued at enough to pay off the public debt. Normally these lands would have had to be sold before their value could be realised and this would have taken too much time. Accordingly, a plan was devised whereby interest-bearing bonds – the *assignats* – would be issued and used to meet current governmental obligations with land as their backing. Indeed, they could be used to purchase land from the government, and when this happened the government was to destroy them.

This arrangement was sound enough, but it opened the door to financing government by printing paper. The first issue of *assignats* in March 1790 was for only 400 millions *livres tournois* and in large denominations of 1000 *livres* each. By September of 1790, however, *assignats* were being issued in small denominations and were being used as a medium of exchange. Almost



The assignats

Purchasing power of assignats in gold and goods.

Nominal value of assignats in circulation.

immediately they began to lose value in terms of gold and of goods, and consequently were issued in ever greater volume, as can be seen from the accompanying chart. Cheap money drives dear money out of circulation and so hard coins were hoarded in addition to being carried abroad by *émigrés*. Finally, the *assignats* got so that they performed none of the functions of money – were neither a medium of exchange, a measure of value, or a store of wealth. At this point, 19 February 1796, they were abandoned, for neither the business community nor the government could carry on its activities without a usable money. Very cheap money calls eventually for the re-establishment of a dear money.

The new money was the *franc germinal*, provided for by the law of 7 April 1795,¹⁵ but some time elapsed before enough metal could be amassed and minted to furnish the needs of society. In the meantime, *mandats territoriaux* were issued, which were like the *assignats* in that they were redeemable in government lands and in that they soon lost value (in February 1797 they were worth 1% of their face value). Moreover, the Directory went through a 'two-thirds bankruptcy' in 1797 to reduce the interest charges on the consolidated (perpetual) debt. In fact, owners of consolidated bonds, or, as the French say, those inscribed on *Le Grand Livre*, were given two-thirds of the value of what was due them in bonds that could be used for purchasing public lands¹⁶ and the other third due them was inscribed to their credit on a new *Grand Livre de la Dette Publique*, the interest on which was to be paid in bonds. The value of the 'two-third' bonds was by the end of the Directory 5% of the face value and the others were well below par.

The hyperinflation of the Revolution and of the Directory allowed the government to wipe out a large proportion of the public debt and to meet its current obligations, but it had a negative effect on the economy. To be sure, at the outset a temporary fillip was given to production as people turned their *assignats* into real goods before they lost value and as foreign exporters to France insisted on being paid in goods instead of paper. Soon it became apparent, however, that those who had their savings in bonds or other obligations that depended on the value of the paper money were the ones who were being hit hardest. Furthermore, it became clear that the *assignats* were

being used simply to change the ownership of land and that they were not stimulating economic activity; indeed, by the beginning of the Restoration ownership of land did not constitute a major distinction between wealthy commoners and nobles.¹⁷

The inflation caused by the *assignats* had also the effect of making prices very high throughout 1793-5 and high prices had then much the same results as those in 1788-9. Urban workers found the cost of living intolerable, since wages lagged, as they usually do, way behind prices in periods of rapid rises, and this situation added to other social tensions throughout the Terror and afterwards.¹⁸ Then, when a usable money was re-established, it had a deflationary effect. With a sudden fall in foodstuff prices from good crops in 1796-8, which reduced the income of farmers, and with deflation the economy was depressed until Napoleon took over and was victorious.

Serious as the experience of the *assignats* may have been to the economy of France, this episode in French economic history was of minor importance in the large picture of French economic development compared with the effect which the wars of the Revolutionary and Napoleonic periods had upon growth. Not only were the wars of long duration, but this was the time when mass warfare first appeared in modern history, and mass warfare completely changed the nature of international conflicts. War became 'total' in that everyone and everything in a state became involved in obtaining final victory. Mass armies required the drafting of enormous numbers of men and took away from the labour force those very elements most needed to keep the economy in operation. Moreover, the new warfare was especially destructive of men, materials and productive equipment. No longer was the objective to seize some territory and then to negotiate for whatever advantage one wanted. The objective henceforth was to destroy armies and productive potential.

That France became so heavily involved in war in these years was a tragedy for it and for all Europe. These wars threw fuel on the fire of unreasoned and unreasonable nationalism. They prolonged the notion that glory could be had by killing and destroying. And they provided no solution to any problem. Even if the French Revolutionaries may have been justified in

declaring war on foreign powers which were threatening to invade their country in 1792, later leaders, and especially Napoleon, carried on war with no long-range purpose in view. He made war for its own sake.

Just how great the destruction of the French Revolutionary and Napoleonic wars were, no one, to my knowledge, has had the audacity to estimate. At the Congress of Vienna the Statistical Committee might have tackled such an assignment, but it did not believe it possible of fulfilment. We can, however, get some measure of the enormity of the war and its drain on the labour force by considering the number of those drafted and numbers in the armies. With the *levée en masse* in 1793 (obligatory military service and the draft) French armies reached 1,000,000 men by the end of the year.¹⁹ If the total labour force was 7,000,000, which, however, included a large proportion of women, it is apparent that the drain of manpower was colossal. Furthermore, these men were some of the best physically, for about a half of the first draftees were refused as unfit for service. To what extent these men were wiped out can be gathered from the fact that of the 800,000 in the armies which went to Russia only about 33% were French. From 1800 to 1815 some million Frenchmen were killed in war.

Serious as was this transfer of the labour force from production to destruction, what was as bad was the turning of all energies of the nation to the winning of the war – to total warfare. The *levée en masse* specified that single men between the ages of eighteen and twenty-five would be called to carry arms and that all others were liable for war work. The need for *matériel* was great, for existing productive capacity was geared to supplying small professional armies rather than hordes of citizen soldiers.²⁰ Furthermore, the old arsenals were located either on the northern and eastern frontiers, where they were subject to attack by invaders, or in districts that were torn by civil strife. Lastly, the manufacture of arms and ammunition depended heavily on imports such as hard steel for the firing mechanisms of infantry arms, tin and copper for making bronze cannon and saltpetre from India and sulphur from Italy for making gunpowder.

The demands of war production required a heroic effort – an effort which was directed in part by Lazare Carnot, who has

gone down in history as an organising genius. New arsenals were built at safer locations, but in places where costs of transportation of raw materials and the finished products were high. Rifle factories were set up in the Invalides, the Jardin du Luxembourg, and on barges in the Seine (the current was used to turn lathes). Bells, copper roofing and other fixtures were taken from churches to make bronze cannon, which made possible an increase in output of from 900 to 13,000 per year. Saltpetre was obtained by washing down stables and outhouses and by saving urine and then by reducing the liquid to solids by boiling. This last step was often performed in former churches, like Saint-Germain-des-Prés in Paris, where fires were kept burning for the purpose and where the hymn to saltpetre was intoned:

Descendons dans nos souterrains
La Liberté nous y convie.
Elle parle, Républicains
Et c'est la voix de la patrie. (*bis*)

Lavez la terre en un tonneau
En faisant évaporer l'eau,
Bientôt le nitre va paraître.
Pour visiter Pitt en bateau
Il ne nous faut que du salpêtre. (*bis*)

France became a great workshop in which 'all hands, all knowledge, all talents, and all useful resources were requisitioned for *la Patrie*'. In this effort certain technical advances were made. The production of gunpowder was improved by a mechanical method of making heavy balls revolve over the necessary ingredients rather than by pulverising them with mortar and pestle. Montgolfier developed manned balloons, which were used in battle for observing the movements of the enemy. Chappe perfected a semaphore for transmitting news, which allowed the sending of messages from the fronts in the north to Paris in three minutes, when there was no fog! And later during the Continental blockade a method for extracting sugar from beets was put to use to provide a substitute for cane sugar. For the most part, however, war production did little to increase the economic potential of France. Instead the country used its resources and energies for activities of an ephemeral nature.

Still another aspect of the long wars of the Revolutionary

and Napoleonic periods which did much damage to France's economic development was the economic warfare waged against England. Although this war is usually associated with Napoleon's Continental blockade, it had its beginning in the early years of the Revolution. Indeed, in 1791, when the more conservative elements of the Revolutionaries were in power, a protective tariff was enacted, which was aimed primarily at Great Britain. It forbade foreign nations to trade with French colonies; it reduced import duties on colonial goods coming directly to France; and it abolished export duties on French goods going to French colonies. Then, after the declaration of war on Great Britain (1 February 1793), measures directed at Britain became more specific. The Eden Treaty was denounced and many British goods, including textiles and metals, were excluded from France. In September of the same year a 'navigation act' was decreed which prevented foreign ships from bringing to France other than goods made in their countries. In October a new list of enumerated goods made in England or in territories controlled by Britain was drawn up which extended the list of those goods that could not be brought to France on penalty of twenty years in irons. The purpose of such legislation was apparent, as Barère made clear to the Convention – it 'was to ruin the Isle of shopkeepers'.²¹

This policy of trying to injure Britain's trade and industry was greatly intensified during the Directory. A new tariff of 31 October 1796 was much harsher than that of 1793, for not only did it extend still further the list of prohibited English goods, but it declared that certain goods were British no matter what their actual origin was and hence liable to seizure. A new navigation act was passed that declared any ship which came out of England to be English and a free prize. Moreover, the nationality of a ship might be determined by the origin of its cargo and this rule was so interpreted that a scuttle of English coal was declared to be cargo and thus to make the ship English. In this way France banished neutral shipping from its ports and suffered grievously as a result. In fact, France's foreign trade fell so drastically that in the period 1797–9 it was down to approximately one-half what it had been before the Revolution. This decline contributed greatly, as we have already stated, to the depressed economic conditions of these years.

When hostilities between France and Great Britain were renewed in May 1803 after the interlude of peace which began with the treaty of Amiens, Napoleon expected at first to reduce his arch enemy by an attack across the Channel. When this so-called Boulogne Campaign had to be given up after the defeat of the French naval forces at Trafalgar (21 October 1805) and the emperor had turned to a land campaign against Austria, his chief hope of bringing England to its knees was by waging economic warfare. He thought that by applying previous policies more rigorously, he could cut off England's markets on the Continent. If this were done, he reasoned, goods would pile up in England; factories would be forced to close; unemployment would be rife; bankruptcies would multiply; England's credit would be ruined; the Bank of England would turn to inflation; and England's subsidies to its allies would cease.²²

With these thoughts in mind Napoleon issued the Berlin Decree of 21 November 1806, in which he declared the British Isles to be blockaded and ordered the arrest of all Englishmen on the Continent, as well as the confiscation of their property. The principles in this document were not new, but the rules were now to be enforced strictly and they made clear that the Continental System was central in Napoleon's policy. Then came the Milan Decree of 17 December 1807, which was in essence a new navigation act. It stipulated that any ship which called at a British port, paid duty in Britain or submitted to British examination was denationalised and subject to seizure.²³

In order to make these measures have their desired effect, Napoleon felt impelled to close more and more of the Continent to Britain and, for this reason, as well as others, carried his war ever farther afield. Undoubtedly the blockade did considerable injury to Britain,²⁴ but it did even more to France. Its industry suffered sorely from being cut off from raw materials, like cotton, for which no satisfactory substitute could be found. The lack of maritime trade prevented it from exporting its own products to parts of the Continent reached by sea. Even the commissary of Napoleon's army on its way to Moscow bought shoes in Hamburg made from English leather. So short was France of certain products that in the spring of 1809 the French government broke its own blockade by issuing licences

for the importation of what was considered essential. Goods taken as prizes were sold now rather than destroyed; and in 1810 high duties were levied on more goods in order to get revenue.²⁵

By 1811 a new economic crisis set in which lasted practically until Napoleon's ultimate defeat. The blockade, privateering and war reduced the French merchant marine for distant commerce from 1500 vessels in 1801 to 200 in 1812. All cotton textile establishments of any size failed or were heavily subsidised.²⁶ Poor harvest in 1811 resulted in high food prices; and large expenditures by the masses for food meant, as they had earlier, that little purchasing power could be directed towards acquiring industrial products. Napoleon was no longer able to make war pay and had to increase taxes.²⁷ The business community realised at long last that it could not benefit from the kind of regime which Napoleon was trying to perpetuate and gradually turned against him.²⁸

The long wars of the Revolution and of the Napoleonic period provided a tragic climax to the operation of a complex mixture of factors which retarded French economic growth. How long it would have taken France to have caught up with England if there had been no Revolution and no wars is anyone's guess. Mine would be that it would have been very long, for the French did not place economic development high in their list of social values and social priorities.

As things were in actuality, France's failure to achieve growth at the same rate as its neighbours reduced its comparative economic and military potentials. This changed position of the French helps to clarify many important phases of the history of the 19th century. Not until after the Second World War did France lessen markedly its economic inferiority *vis-à-vis* the rest of Western Europe. By that time, however, other states had appeared on the scene with such potent economies that the hierarchy of powers was completely changed. Even if France's economic growth had not been hampered by a number of factors, such as those which we have considered, it had little chance of returning to its strong position of the 18th century.

NOTES

1. J. Marczewski, 'Y a-t-il un take-off en France', *Cahiers de l'Institut de Science Economique Appliquée* (Paris, 1961).
2. These very broad generalisations are based on recent statistical studies of the French economy. Admittedly these studies are based on sparse data, but the general trends seem to be valid. For the growth of industry, see Pierre Léon, 'L'industrialisation en France en tant que facteur de croissance économique, du début du XVIII^e siècle à nos jours', *First International Congress of Economic History, Stockholm, 1960* (Paris, 1960); J. Marczewski, 'Le produit physique de l'économie française de 1789 à 1913 (comparaison avec la Grande-Bretagne)', *Cahiers de l'Institut de Science Economique Appliquée* (Paris, 1965); and T. J. Markowitch, 'L'industrie française de 1789 à 1964', *Cahiers de l'I.S.E.A.* (Paris, 1965 and 1966). For the history of French population, consult J. C. Toutain, 'La population de France de 1700 à 1959', *Cahiers de l'I.S.E.A.* (Paris, 1963). An up-to-date economic history of France is that by Fernand Braudel and Ernest Labrousse (ed.), *Histoire économique et sociale de la France, 1660-1789* (Paris, 1970), which is vol. II of a four-volume work.
3. Not until 1878 did two English chemists develop the Thomas-Gilchrist method which allowed this iron to be smelted successfully with coke.
4. An extremely interesting story of the French efforts to get the new techniques into France is told by Charles Ballot, a most promising scholar who was killed in the early months of the First World War, *L'Introduction du machinisme dans l'industrie française* (Paris, 1923). On the question of the diffusion of techniques, see my 'The Diffusion of Industry in the Last Century and a Half', *Studi in onore di Armando Saponi* (Milan, 1956-7). Diderot and D'Alembert, *Encyclopédie, ou dictionnaire raisonné des sciences, des arts, et des métiers* (Paris, 1751-79), 35 vols, especially those devoted to the drawings. Also see Roland de La Platière, *Encyclopédie méthodique: manufactures, arts, et métiers*, 4 vols (Paris, 1785-1828).
5. George T. Matthews, *The Royal General Farms in Eighteenth Century France* (New York, 1958).
6. Evidence regarding this 'dream' has been brought together by Robert Mauzi, *L'Idée de bonheur dans la littérature et la pensée française* (Paris, 1960). See also Pierre Goubert, *Familles marchandes sous l'Ancien Régime: les Danse et les Motte de Beauvais* (Paris, 1959) in the collection *Affaires et Gens d'Affaires*.
7. *Histoire économique et sociale de la France*, ed. Fernand Braudel and Ernest Labrousse, II (Paris, 1970), 134-40.
8. Herbert Luethy, *La Banque protestante en France de la révocation de l'édit de Nantes à la Révolution* (Paris, 1959).
9. This list could be greatly extended. See Pierre Léon in *Histoire économique et sociale de la France*, ed. Braudel and Labrousse, II (Paris, 1970) 614-22. See also Ballot, *L'Introduction du machinisme*.

10. The long-term rise in prices was reflected in the increase in rent that tenant farmers were paying for their leases. On prices, see Braudel and Labrousse, *ibid.*, II pp. 409, 459; C. E. Labrousse, *Esquisse du mouvement des prix et des revenus en France au XVIII^e siècle*, II (Paris, 1933), pp. 595–600; and by the same author, *La Crise de l'économie française à la fin de l'ancien régime* (Paris, 1944).
11. The crisis in textiles in this period has traditionally been attributed to the Eden Treaty between France and Great Britain in 1786. This treaty provided for a lowering of French duties on English textiles and other goods and of English rates on French wines and brandies. Although some evidence exists to show that the importation of English textiles into France did increase, the treaty did not become operative until the spring of 1787, and after a brief spurt English exports to France fell back sharply.
12. One of the chief protagonists in recent times of the contention that the Revolution was *bourgeois* – that it was a class struggle in which the *bourgeois* won all the battles – is Albert Soboul. See his *Histoire de la Révolution Française*, 2 vols (Paris, 1962). The chief critic of this point of view in recent times has been Alfred Cobban. See especially his *The Social Interpretation of the French Revolution* (Cambridge, 1964).
13. For the most part these lands were sold in large blocks at auctions held in chief cities and had to be paid for in relatively short periods of time. Thus the *bourgeois* bought most of them.
14. Estimates regarding the number of victims of the Terror vary considerably. That by Donald Greer, *Incidence of the Terror During the French Revolution – a Statistical Statement* (Cambridge, Mass., 1935), is lower than mine, for I have added those who were killed without trials and those who died in jails awaiting trial. A veritable encyclopedia of those who were killed was compiled by Louis Marie Prudhomme, *Histoire générale et impartiale des erreurs, des fautes, et des crimes commis pendant la Révolution française* (Paris, 1797).
15. Marcel Marion, *Histoire financière de la France depuis 1715*, II (Paris, 1914). Also Seymour Harris, *The Assignats* (Cambridge, Mass., 1931). A decimal system of money had been envisaged by the law of 7 Oct. 1793. The gold and silver contents of the franc were established in Aug. 1795 and were not altered to any appreciable extent until after World War I. The franc of *germinal* was equal to a *livre tournois*. See René Sédillot, *Le Franc. Histoire d'une monnaie des origines à nos jours* (Paris, 1953).
16. This was obviously a large sacrifice of those who had lent to the state. It was offset to a considerable degree by permitting the exchange of *assignats* for *mandats territoriaux* at the rate of 30–1 when the market rate was 400–1. Furthermore, the continued use for a time of *assignats* allowed a tremendous speculation. Those who were selling provisions to the army not only got high prices but manipulated the bonds with which they were paid so that they could buy government lands very cheaply.
17. Marc Bouloiseau, *Le Séquestre et la vente des biens des émigrés dans le district de Rouen* (Paris, 1935).

18. Albert Mathiez, *La Vie chère et le mouvement social sous la Terreur* (Paris, 1927).
19. For this and other questions of a military kind about the Revolutionary armies, consult Richard Cobb, *Les Armées révolutionnaires*, 2 vols (Paris, 1961-3).
20. The volunteers of 1791 had to buy their own equipment and uniforms. If they did not have the funds to pay for them at once, amounts were deducted from their pay until the equipment was paid for. With the *levée en masse* the state returned to the practice of supplying equipment at its own expense.
21. See Leo Gershoy, *Bertrand Barère: A Reluctant Terrorist* (Princeton, 1962).
22. The Bank Restriction Act of 1797 had given the French some hope that economic warfare would work.
23. The Milan Decree was in answer to the British Orders in Council, especially those of 11 Nov. 1807, which declared that all ports from which the English were excluded were under English blockade and that neutral vessels had to put into England before going to a Continental port.
24. François Crouzet, *L'Économie britannique et le blocus continental (1806-1813)*, 2 vols (Paris, 1958).
25. This was the Trianon Tariff of 5 Aug. 1810. By the Fontainebleau Decree of 18 Oct. 1810 smuggled goods were to be burned and smugglers sent into penal servitude for ten years.
26. For an illuminating study of business in this period see Fernand Leleux, *Liévin Bauwens, industriel gantois* (Paris, 1969).
27. On prices, see A. Chabert, *Essai sur le mouvement des revenus et de l'activité économique en France de 1798 à 1820* (Paris, 1945). The tax increases were appreciable. Direct taxes were pushed up 30% and the salt tax was raised 20%. Moreover, 25% of the salaries of governmental employees was withheld.
28. General Malet led a plot against the emperor, and Lainé from Bordeaux, where commerce had suffered badly, made a public criticism of him. The *Acte Additionnel* to the Constitutions of the Empire was submitted to a plebiscite by Napoleon after his return from Elba and was in a sense a vast public opinion poll on the popularity of the Napoleonic regime. In the vote, there were a million and a half abstentions, particularly from bourgeois communities.

8 Considerations on the Industrial Revolution

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I. DISCUSSION ON THE CAUSES AND PERIOD OF THE INDUSTRIAL REVOLUTION

FOR more than a century now economists and historians have been discussing the factors, period and customs of the Industrial Revolution. In the middle of the 19th century classical economists such as John Stuart Mill or socialists like Frederic Engels had already begun to speak of 'Industrial Revolution', and in 1867 Karl Marx described it in his first volume of the *Capital*. These works gave rise, a decade later, to the first systematic discussions of the subject by Arnold Toynbee and Paul Mantoux, who wrote *Lectures on the industrial revolution England* (1884) and *La Révolution industrielle au XVIII^e siècle* (1905), respectively. In the introduction part of this last work, Mantoux observes that 'two important elementary facts closely bound to each other and that reciprocally transform themselves and that have indefinitely varied consequences and that are always identical in their principle completely dominate this revolution: the exchange and the partition of work'.¹ This theory connected the origin of the Industrial Revolution in part to the increase of demand consequent to the increased trade and in part to the increase of supply rendered possible by the introduction of the partition of labour. Mantoux develops his reconstruction on this formulation, confirming several times in the course of the first part of his work that 'from commerce and from the commercial spirit, originates the new industry',² from the 'extension of commerce, originates the partition of labor',³ and that the concentration of capital depends essentially on a phenomenon of commercial order 'which characterizes the

industrial revolution'.⁴ These affirmations reinforce the impression that Mantoux had originally thought of the Industrial Revolution in terms of a double and concomitant force of the development of supply and demand, but later tended to place more importance on the development of commerce; that is, on the increase of demand.

In over sixty years of researching, little by little, preference has been given to the two terms that Mantoux had prospected. Even in recent works, such as those of Hobsbawn, it is maintained that the increasing exportation – that is, abundant demand – has determined the decisive force of the Industrial Revolution. This thesis was also presented in other terms by Wilson, who affirmed that the commercial revolution preceded, and was decisive for, the Industrial Revolution.⁵

The theory that gives predominant importance to the accelerating and economising factors of supply also has its followers. One of them, Deane,⁶ lists the following seven determining factors of the qualitative, quantitative and temporal characteristics of the Industrial Revolution: (1) *Systemic application of scientific findings* to the productive processes of the market; (2) *specialisation of economic activity* directed to produce for the national and international market rather than for family and local consumption; (3) *movement of the population* from the country to the city; (4) *extension and depersonalisation of the typical production units* in such a way that they are always less based on the family and more on public and social enterprise; (5) *transfer of labour* from the production of raw goods to the production of manufactured goods and services; (6) *intensive and extensive use of fundamental resources* as a substitute for integration of human effort; (7) *emergence of new classes* determined by property or affinity with means of production, other than land, especially capital.⁷

And even when⁸ the causes of the Industrial Revolution are reduced to the demographic development and to the 'enclosures' that offer abundant labour, mineral discoveries that offer raw materials, abundance of capital that aids investments, findings that potentiate them and the spirit of enterprise that organises all of this, one ends up listing a series of factors that exalt the importance of the quantitative increase of the supply of goods and render possible the reduction of their cost. The

additional fact, then, that foreign outlets also contributed to this stirring up, would serve to demonstrate the necessity of having the increased supply arranged in such a way as to give continuity to the revolution, but it does not serve to attenuate the impression of priority that Godechot attributes to the supply.

Other historians have orientated themselves towards a synthesis of the two factors. Thus Barbagallo,⁹ although referring to the period between 1825 and 1850 rather than to the beginning of the Industrial Revolution in the 18th century, concludes that four factors, that is the peace, the population increase, the increase in the standard of living and scientific progress (the first and the second are ambivalent in respect to the supply and demand; the third is bound to the increase in the demand and the fourth is related to the supply), would have promoted the development of big industries in the 1800s.

Not so expeditious but more pertinent to the times of the origins of the industrial revolution is Hartwell's¹⁰ list of the forces that determined economic development during this period. They were: (1) *Accumulation of capital*; (2) *Innovations – Changes in the technology and organisation of Agriculture and Industry*; (3) *Eventful factors of development*; (4) *Laissez-faire*; (5) *Expansion of the market*; (6) *Various other factors*.

Not taking into consideration the particular case of Great Britain but looking at the development of the world economy in the 19th century, Clough believes that it is based on: (1) the mechanisation of industry; (2) utilisation – never seen before – of mineral resources; (3) exploitation of farming areas due to new technology and to means of transport.¹¹

In a simpler fashion, Brock¹² condenses his list of factors contributing to the development of the Industrial Revolution in the following terms: increase of national and foreign demand, increase of capital and the available work force. All this would have favoured the increase in production, while the aid of inventions would have intervened later on.

All of these discussions made by historians have been adopted by economists to be used in the modern dispute on the factors of development. One of these economists, Ohlin, maintains that one must distinguish between the force given to the Industrial Revolution by demand and the force produced by supply.

According to Ohlin, it cannot be proved 'that, until 1870, British producers of manufactured goods profited from an expanding market and had the possibility to take advantage of *foreign economies*'. For example, in the iron industry 'demand was very rigid, and only because of international competition did the problem of the scarcity and rising price of soft coal arise'.

The causes of expansion should not be looked for in the iron industry itself, but in the circumstance that it could, together with its rather rigid demand, connect itself to an industry producing consumer goods; the textile industry, for example, which was subject to a rather elastic type of demand. This connection came about through the advent of steam engines that caused a lowering of prices of textiles and consequently an increase in the demand for these textiles. It was the expansion of the textile industry that permitted producers of machinery and raw materials used in this industry to develop their own production.

'However, in the economic system there does not simply exist a succession of productive phases through which raw materials become transformed into finished products: there also exist circular relationships as, for example, iron-steam engines – coal-iron. Certainly, the importance of steam as an innovation was due to the fact that it could be inserted into one of these circular relationships, thus permitting the start of technology based on coal-iron-steam. In a similar situation of structural interdependence, "internal economies", due essentially to large-scale production, tend to grow collectively since the industry that creates them will benefit from their effects again when the connective circle closes, and it can make its acquisitions at a lower price.

'In summary: in the 18th century the expansion of British industries that produced manufactured goods was seriously hampered by an insufficient number of outlets. This obstacle was overcome through the fruitful contribution made by steam engines both in the textile industry and in the industries producing manufactured goods. However, it was the spectacular reduction in the prices of cotton textiles, accelerated by innovations and by economies made possible in the production and transport of crude cotton, that made possible the expansion of sales on the internal and, above all, external markets. However,

this interrelation which permitted the blossoming of technological development was more vertical than horizontal and the greater part of the "external economies" was realized by industries producing manufactured goods.'

This characteristic connection between supply and demand which verified itself in Great Britain, but not in other countries, explains the different times of development of the Industrial Revolution in the different areas. 'Europe', continues Ohlin, 'easily imitated British technical producers in a second time but it could not imitate the essential element of English success, that is the emission in large quantities of a consumer's goods of elastic demand on the world market, as in this case cotton textiles. It is comprehensible then that without an extension of outlets for finished products the modern technique used by industrial producers of manufactured goods could not yield all its fruits in Europe. It did something similar at the beginning of the 19th century; for example, the German iron industry began taking advantage of the numerous new uses for which this metal was required; military orders for goods also favoured the development of industry on the Continent, even though its main characteristic remained that of presenting noticeable differences between the various sectors.

'In this situation, the coming of railroad transportation greatly contributed to the economic expansion of European countries.' After having taken into consideration the relationship between industrial revolution and revival of agriculture, Ohlin concludes: 'It is right then to affirm that the simultaneous expansion of industries producing consumer goods did not represent an outstanding characteristic of the Western industrialisation process. A much more important function was carried on by the sectors of investment and exportation as well as by the development of agriculture although late and not uniformly.'

Bairoch emphasised the importance of agricultural factors as a primary and essential stimulus to the Industrial Revolution. After trying to demonstrate in a rather quick way why it must be denied that they have played 'a primary function in the starting of economic growth in the Western countries during the 18th century or even in the 19th century' the technical progress, the demographic factors, the increase of prices and the accumula-

tion of capital, he concludes by saying 'that the determining factor in the start of the industrial revolution was the increment of agricultural production'. Concerning Great Britain, the agricultural development would have preceded the industrial one, manifesting itself by: the increase of productivity in general, greater production of grain, better technology and also in the stimulus to the elimination of common lands. In consequence one has: (1) a greater availability of subsistence which encourages demographic growth; (2) a greater requirement for metal agricultural machinery, that encourages the development of iron metallurgy and mechanics. An analogous process occurred in France but it manifested itself later on, due to the obstacles that the revolution and revolutionary wars imposed on agricultural progress. This would explain why the true Industrial Revolution there did not really start until the period between 1815 and 1830.¹³

In making a comparison between the times and ways and means in which the Industrial Revolution in Great Britain and France manifested itself, one must premise the fact that already by the middle of the 18th century there was a difference in development between the two countries. Preoccupied by this, in 1764, the political leaders in Paris sent to London the chemist Gabriel Fars to study the reasons why, in Great Britain, 'Industry was more advanced than in France, and if such a difference depended, as was presumed, on the fact that the British were neither hindered by regulations nor by inspections'.¹⁴

Regardless of Bairoch's arguments they are still valid. Fohlen however reproves them, he polemises with those, such as Clough, Landes and Lawyer who attributed the delay in the French industrial development to the lack of spirit of enterprise, to the adhering to traditions, to the small increase in the population, to foreign investments, to the lack of raw materials and to the fiscal politics that increased the costs of production¹⁵ and opposes to their arguments the events of the French Revolution. They had bound the people to the land by granting them small farm properties; therefore, they consolidated and did not disperse the peasant class (which happened in Great Britain). Since the peasants remained on the land, they furnished available labour in country districts, thus favouring

a decentralised industry having a large labour employment. However, in giving further explanations for this difference Fohlen points out as other factors of the slow French development: (1) the transport scarcity that hindered the utilisation of pit-coal from afar and the easy transfer of heavy materials; (2) the credit disorganisation after the unsuccessful experience at the time of John Law. In conclusion, only in 1849-50 were there reunited in France the conditions capable of making up for the delayed blossoming of the Industrial Revolution, as would demonstrate the development surveys of various sectors in the various periods.¹⁶ 'Therefore,' from a historical point of view, according to Fohlen,¹⁷ 'France would immediately follow Great Britain in the great industrial transformation, but that the process was accomplished under very different conditions due to the characteristics and size of the country. France, a small and medium agricultural country, consolidated and strengthened by the revolution of 1789, did not possess such an abundant and low-class labour force. Being a continental country, it lacked adequate transportation for a long time. As it was composed of landowners, it hesitated to utilise its capital in scarcely profitable business. Thus, it is possible to explain the two characteristics of the French industrial revolution: its slowness up to 1850 and its speeding up after 1850.'

Making a comparison not only with France but also with Germany after having reviewed the factors favouring a precocious industrial revolution in Great Britain, W. O. Henderson writes that France and Germany were retarded by wars and market division, and in France by the bad distribution of wealth and insufficient carb-board resources. On the other hand, in Germany there was a political division in many states and the lack of oversea possessions.¹⁸

All the arguments referred to until now, on the causes and times of the Industrial Revolution, may lead us to some maximal authentications. These state that the Industrial Revolution was provoked by the intertwining of a new demand and supply of goods. The manifesting itself of this new demand and supply varied in quantity and quality from country to country and from sector to sector. Therefore, the geographical areas and economic sectors of the Industrial Revolution were not uniform. Great Britain was the vanguard as far as countries were con-

cerned, followed by some countries in north-west Europe and the United States. Regarding the sectors, the agricultural and textile industries started developing first, followed by the metallurgical and mining industries and then by railway transport. The times depended on the development of the above-mentioned sectors. Anticipations and delays as well as the impetuosity and slackness depended on the bonds between the local and world markets, the presence or not of sufficient production factors, the organising capability of *entrepreneurs* and merchants and government policies favourable or not to expansion. Thus, the principal factors remain, regardless of various assertions; the increase in the world market's extension, pace and volume and the active presence of merchants and the appearance of very capable *entrepreneurs*. The three mentioned principal factors explain why the Industrial Revolution was a worldwide phenomenon, while other and different complementary factors explain the different ways and times of its manifestation.

Regarding the time element, it is by now taken for granted by most experts that, from 1740 to the end of the century, the renewing development manifested and affirmed itself above all in the agricultural and textile industry sectors. From the start of the 19th century, we enter into the second phase, which lasted for half a century and in which the renewal laid emphasis on the mining, metallurgical, mechanical and transport sectors, with the determining attribute of the construction and working of numerous railways.¹⁹ Though having stated this, there still remains the problem of determining the start and duration of both phases in the individual countries. Rostow set out to solve that problem and by giving a prime importance to the oscillations in the optimal investment rate, which he indicated as 5–10%,²⁰ arrived at the following periods for the entrances of the individual countries into the decisive phase of the Industrial Revolution: 1783–1802 in Great Britain, 1830–60 in France, 1833–60 in Belgium, 1843–60 in the United States, 1850–73 in Germany, 1869–91 in Sweden, 1878–1910 in Japan and 1890–1914 in Russia.²¹ This time classification also gives rise to many slight criticisms due to its gaps – one of which being, for instance, Italy²² – and for its time defects, that conclude in the delay of the starting year at the expense of other countries rather than

Great Britain. A reconstruction of the concrete ways in which the Industrial Revolution manifested itself and developed will always permit the giving of correct opportune data, concerning any country and any sector.

II. MARKET EXPANSION

The previous considerations lead us to maintain that the expansion of the market was the new and determining factor in economic development in the 18th and 19th centuries. The 16th and 17th centuries had set and started the realisation of various essential premises for this widening. In the 18th century it intensified, and those countries which first realised them found themselves at the head of this renewal process. Some writers still question the importance of the above-mentioned factor regarding the start of the Industrial Revolution;²³ others do not hesitate to write that 'exports and especially exports outside of Europe were the motive power for the more dynamic sectors of British industry'.²⁴ The contrast between the two opinions lessens and perhaps disappears above all if the country taken into consideration is well defined, in the second place, if the start of the true and proper Industrial Revolution is not anticipated to the first half of the 18th century.²⁵

Evidence that trade preceded and stimulated industrial development is given by the history of Liverpool. The traffic in its port increased from 27,000 tons in 1710 to that of 37,000 tons in 1730; 65,000 tons in 1750; 100,000 tons in 1760; and 140,000 tons in 1770, thus replacing Bristol as the most important port after London, while in its surroundings, big industry was just arising.²⁶ On the other hand, the fact that Britain, which was the first to enter the development phase, tripled its exports in a century, cannot be overlooked: these were equal to a value of 2,320,000 pounds in 1622 and rose to £6,910,000 in 1720. This increase continued even later, or rather it intensified until it was almost more than double that of 1720 in the next half-century. A comparison between international trade indexes and those of industrial production from 1700 to 1770 leads us to the conclusion that there must have been some connection between market expansion and production development.²⁷

From 1700 to 1769 British international trade manifested the

tendency to more than double itself, while industrial production went on at a slower pace. This would confirm that, on the eve of the Industrial Revolution, trade expansion was a dynamic factor of development and then, during the same revolution, this new production became a factor for further progress in the same trade.²⁸

A confirmation of this report is obtained if we pass from examining the British economy as a whole and examine only a sector of it, as the cotton industry. While total exports increased at a moderate rate, the cotton industry had, between 1750 and 1770 alone, an increase in its exports of 900% in value, 95% of the total amount being destined for the colonial markets.²⁹ The possibility of utilising such ample international outlets made the cotton industry the basis for the renewal take-off and, truly then, of the whole Industrial Revolution. Another sector, such as the iron industry, could not count on such vast foreign markets and it had, in fact, a delayed development. In spite of inventions, it still did not decisively take-off until the start of the 19th century; that is, when it received business orders originating from the incipient railroad constructions. In 1830, the year that the Liverpool-Manchester railroad was inaugurated, the yearly British iron production was 600,000-700,000 tons; eighteen years later it reached 2,000,000 tons.³⁰

In the European countries that could not take part very early in the world market, the productive development was retarded. A typical example is given by France. Its colonial affairs, war effects and the continental blockade prevented it from having intensive trade relations with the world market. Therefore, the start of its development, that was previously hindered by the incapacity of the absolute monarchy to rid itself of the privileged,³¹ did not rapidly follow the British take-off.

Also other continental and European peninsular countries, due to their less favourable geographical position and historical background, were not able to insert themselves to any great extent in the continually expanding world traffic. Therefore, they did not show any rapid and perceptible manifestation of development. At the time of Frederick II the yearly Prussian industrial production amounted to 100 millions in French francs; that is, a little more than half of the yearly production value of solely the French wool industry and the relative

economic isolation in all the German countries retarded their progress,³² leaving them to the dominion of the *Verlagsystem*. Something similar also became evident in the territories of the Republic of Venice, where contractor-merchants continued to provide the most advanced form of industrial initiative.³³

However, the spreading of information about innovations, which, nevertheless, were introduced in the joining together of customs, laws and institutions in European countries as well as in those outside Europe, had a stimulating action on the near general retardation.³⁴ On the other hand, the intensified British development could not help having a repercussion on all the countries, especially after the declaration of European peace in 1815, and liberal revolutions that occurred on the Continent, and finally, after the accentuation of scientific progress.³⁵

Every external stimulus however was of no avail where there was an absence of men capable of grasping the economic advantages offered by the inventions and of facing the necessary risk involved in attaining them. Great Britain had undergone many vicissitudes and had profited greatly from their results since it had men capable of organising the forces necessary in overcoming the various obstacles. Outside Great Britain, the developmental process extended itself as soon as the various countries integrated in the world market and saw the starting of work done by pioneers of the new economic life. The presence of a daring and enterprising business leader class permitted Great Britain not to suffer from, but to exploit, the effects of integration in the world market; in the countries which had a retarded development, the take-off took place as soon as they opened to the demand, supply, innovations and world market risks, and they granted economic businessmen the freedom which was indispensable for the foreseeing and overcoming of existing difficulties and the winning of foreign competition.

III. THE STIMULATING WORK DONE BY MERCHANTS

In the feudal society the wandering merchant was the dynamic element capable of preparing the future renewal. Later on, a dynamic element for the further development of the communal society was the contractor-merchant. This man in the modern

age,³⁶ although he did not give up his proper activity,³⁷ became a manufacturer. His activity was at the centre and vanguard of productive life in the 17th century. The absolute-state had to start establishing patronising relations with him from above and consenting integrational relations from below, in order to attain a further enriching of the national community and thus becoming a greater power.

In the two centuries of the modern age the started integration of town and country markets into the national ones and these into international markets, exercised a renewal stimulus above all on operators in the commercial sector. They were more and more attracted by the possibilities of profitable transactions brought about by the opening of new centres of production and hence of supply and by the opening of new areas of consumption and, therefore, of demand. Already embarked as they were on business, the merchants faced the problem of how conveniently to exploit the new occasions. They did this by buying up the goods offered in the new production areas, in order to satisfy the needs that arose in the new consumption areas, and thereby, with their profit, balancing the new supply with the new demand. The distances between the centres in which increases in demand and supply manifested themselves posed at least two main problems. These problems had to do with the purchasing of the offered goods and the selling of the required goods, overcoming both the spatial-economic obstacle caused by distances, and the time-economic obstacle created by the time lag between the purchasing and placement. The consideration of the above-mentioned problems posed the linked questions of available capital means, in order to operate from the moment of the purchase to the time of surrendering the goods; and necessary transformation means, in order to transfer the goods in question from the production centre to that of consumption. The mercantile class successfully tackled the above problems in a continually better way by utilising capital and service resources which were offered under more and more profitable conditions such as the formation of joint-stock companies, the opening of public banks, the establishment of state banks, the perfected circulation of credit stocks and bank notes, stock-exchange contractions, the building of roads and canals, postal services and the increase in shipping tonnage and speed. All

these events, which verified themselves from the 16th to the beginning of the 17th century, gave to the most enterprising merchants the opportunity to exploit with a certain success the possibilities that were offered by geographical, political and demographic innovations. That this actually happened is shown by the already quoted figures concerning the intensification of international traffic in most countries and in Great Britain particularly.

Besides the limits represented by bonds, restrictions, distortions and prohibitions created by voluntary politics, the merchants, in bringing their activity to an intensity proportional to the potential possibilities of the national and international market, soon encountered the difficulty created by the limited production of goods and minerals and by the limited possibility in processing them. Therefore, the stimulus to ration their activity, which was equally endowed of goods, capital and services, was transformed by the merchants to the operations of the agricultural, mining and manufacturing sectors. Their slow working pace constituted an insuperable barrier for the further expansion of the mercantile activity.

The innovations of the 16th and 17th centuries and of the first decades of the 18th had speeded up the evolutionary process of the merchant class and of mercantile practice. When this process matured, the merchants became efficient interpreters of the exigencies of the new conditions, and they demonstrated to those working other sectors, by means of their demands, how profitable it would be to exploit in full the possibilities offered by national markets integrated in the world market.

The market expansion that took place in the modern age had placed in crisis the old town merchant and the family companies that he had formed, and in their place it gave rise to new, more ample forms of activity for the new merchants and companies which were based on shares and had the characteristics of a joint-stock company. The possibilities of development, which such transformation of structures, services and operators in the mercantile sector offered, placed in crisis the slow and inadequate operating of productive sectors and posed the problem of an increase in volume of production. But as soon as this problem arose, it bifurcated into at least two questions that were whether the increase should be obtained by means of

higher employment or by a quicker production rate. Both hypotheses, however, presented the necessity of giving up, definitely and totally, the rule of producing on order and adopting the risky generalisation of a production based only on a foreseen placement. The new rule would increase the risks as well as the success of the operation. At the same time, the new rule would inspire more abundant supplies, a greater number of employees, a centralised organisation, improved auxiliary mechanisms, integration of human labour with motor sources of other origin and, finally, more abundant capital and a less hazardous distribution of the risks involved.

At the beginning of the 18th century all these problems became increasingly more evident. Those who succeeded in individualising them had a choice of whether to give up operating in the productive sector or to resolve the above-mentioned problems. Those who accepted the second solution abandoned their fathers' cultural and managerial traditions and adopted the mentality of a man who wanted to be successful in the market. This consisted in satisfying the greatest extent possible of the effective demand by offering proper goods at the lowest cost. Those accepting this rule potentially constituted the pioneer class of modern *entrepreneurs* who resolved to abandon useless rules, customs, limits and mechanisms in order to adopt those that permitted the utilisation of all the possibilities offered by the new national markets and the world market as well. Accepting this new conduct, the economic operators transformed themselves and concurred in transforming the economy. It is not surprising then that the more foresighted operators left the mercantile class to enter the industrial one. Once again, the merchants, as they had done in the feudal age and then in town and finally in the modern one, had forewarning of the impending changes and were prepared to carry out also personally the necessary transformations in their field of activity and in the particular way of developing it.

Great Britain was not the only country that offered examples of a number of merchants becoming new industrial *entrepreneurs*. In Belgium new men of enterprise in the textile and mining industries came from trade.³⁸ As regards the rising cotton industry in Piedmont, in the 1700s one of its three pioneer groups came from the merchant class; the same happened in

the wool sector.³⁹ The fact that in both Great Britain and France, and we can add in Piedmont too, farmers, artisans and professional men supplied recruits for the new industrial enterprise class induces Bairoch⁴⁰ to deny that it originated from the trade class. It seems that the examples adopted by Bairoch serve, if at all, to show that the prospects offered by the new industrial activity not only attracted those, such as merchants, who were the best trained for comprehending how to control and exploit it, but following their example, those, such as farmers, artisans and professional men, who were not so familiar with business. Moreover, every period and country had particular conditions able to stimulate the origin of new men of enterprise from social classes diverse from those of more evident affinity, such as that of merchants'. One has only to take into consideration, for example, that in Russia the servile class offered worthy recruits, such as Grachev and Morozov in the 18th century and Kondratyev in the 19th century, to the rising group of industrial enterprisers.⁴¹

IV. THE INNOVATING ACTION OF THE ENTREPRENEUR

Up to now, we have distinguished two necessary preliminary premises, even if insufficient, of the so-called 'Industrial Revolution' of the 18th–19th centuries: these are: (1) the expansion of big national markets and their integration into the world market; and (2) the renewing of (personal or social) operators and structures of the trade sector, with the consequent impetus of extending the renewal to the agricultural and industrial sectors. Stimulated by these two premises, there began to occur in the 18th century the origin and diffusion of the modern *entrepreneur* – the third condition necessary for the start of the Industrial Revolution.

From the 16th century on, cultural and religious phenomena besides this economic impetus contributed in persuading an always greater number, and this resulted in making not only profitable, but ethically correct, the process of rationalising work in order to obtain the best result at the lowest cost.

By that time even men of letters had begun to praise work. In

1668 La Fontaine had recalled that 'work was a treasure', and six years afterwards Boileau stated in his *Poetic Art* that 'a noble spirit makes a legitimate profit from his work without disgrace and offence'. A hundred years later Voltaire affirmed that 'work is life'.⁴² Just at that time, Benjamin Franklin refreshed the ancient teachings of Hesiod⁴³ and those of the Renaissance period by Leon Battista Alberti⁴⁴ on the economically constructive and human value of work. Moreover, the most daring economic operators, encouraged by their profits, by the research spirit and inventions,⁴⁵ as well as the peculiar beliefs of the members belonging to some Protestant sects, sought in economic success one of the valid proofs necessary for knowing in advance their eternal beatific predestination.⁴⁶

Such a psychological situation concurred with the acceptance of the capitalistic spirit on the part of the economic operators and induced them to make a systematic research into the conditions needed for success and for the elimination of obstacles in its path.

We have maintained elsewhere that 'the individualistic-economic rationalisation of the means; that is, the choice of the best economical means and their exploitation until an economically convenient limit, happens through the inventing and perfecting of implements and installations as well as of the company assemblages. But an action of this kind did not verify itself until much later on in history, and in many fields it has not occurred until the present day. In the first productive branches in which it verified itself, it did not occur in any quantitatively significant way until the latter half of the 18th century. Before this period, particularly in the 15th and 16th centuries, and again in the 17th, the rationalising action of the means for capitalistic ends is not clear and not continuous. . . . Nevertheless, we can affirm that when the research of improvements to be introduced became more intense, then such increment was bound with the new economic spirit. . . . Once man became animated by the capitalistic spirit, his main preoccupation in the work field was that of obtaining the best results with the least means, but since he had to heed only individual-economic conceptions in the deciding of that best and that lowest, he had a greater freedom of action and a larger ambit of choice; much more, he could make a choice without being hindered in any

way by extra-economic restrictions. And a similar man, although yet possessed of a crude capitalistic spirit, not having a good and refined criterion of discernment, rather than look for the best profits in the production field; that is, the lowest cost due to improved working implements, will look for it, rather will seek it, in the reduction of cost of the raw materials, by having recourse to the use of disguised substitutions. . . . In times more or less close to ours and according to the European countries that are taken into consideration, attempts were made to obtain the lowest cost and the most production from the maximum exploitation of the worker rather than a more intense utilisation of the implement means. . . . To reach this goal, they adopted either maximum working hours or reduced the remunerations to the lowest possible minimum. . . . The better to reach the one or other aim, it was not rare to see the use of child and female labour. . . . In this attempt to realise the lowest cost, a very particular case and limited to the colonial countries, was the renewal of slavery. . . . The refining of the capitalistic spirit in the European countries induced the start in the perfectioning of implements, either as soon as it was realised that in a few hours' time they rendered more than a worker in a very long working day, or as soon as there was workers' resistance to the further lowering of wages, which compelled the thought of replacing quarrelsome men with docile machines.⁴⁷

The new man of enterprise, animated by the capitalistic spirit, did not limit himself to plan a rationalisation in his work field, but pursued it also within the factory. 'In order to obtain a lowering in costs and hence, given the imposed maximum level of prices, higher profits, the first capitalistic suggestion was to foresee the demand and to produce on the basis of a hypothetical request. In such a way, the advantages of a repeated productive operation could be exploited to the utmost, avoiding the wastes caused by an alternate preparation of products and, likewise, the feverish bustle that succeeds semi-standstill periods.' And little by little, as that work intensifies, the working place must be enlarged and the number of those belonging to it increased. The workshop was transformed into a manufactory and this again into the true and proper factory which was the first example of the future big establishment; and the best

position of the factory was chosen in respect to both the natural sources of energy and the available labour.

'Parallel with the process of factory rationalisation . . . the process of rationalising the company forms developed from the legal standpoint as well as from the point of view of reuniting necessary capital. . . . The capitalistic age created . . . the limited company . . . an ideal instrument in the hands of capitalists for collecting noteworthy means with small participations . . . , permitting a lot of dividing until to render to an almost negligible degree the serious depth of a risk which is often by itself crushing'.⁴⁸ By means of the limited company, the man of enterprise took a very noteworthy step forward on the road towards collecting capital and dividing the risk. This occurred with absolute precedence in Great Britain and with retard in France, where between 1815 and 1848 the limited form was only adopted by about a hundred industrial enterprises that represented 6.5% of the capital invested in the total enterprises.⁴⁹

And when, after these acquisitions the man of enterprise found himself faced with the problems of an easy disposal of the product, of the competition in the open markets and the restraints in those disciplined ones, he was forced to solve the question of his relationship with the state. He had either to ask for protection or demand liberty of action, and in the first as well as second case, even if with different methods and means, he required a policy which would better prepare economic operators, facilitate safe internal traffic, open larger international outlets and deduct, for fiscal charges, the lowest possible quota of the wealth produced.⁵⁰ We have already ascertained what favourable and hostile meetings occurred between the middle-class, united to the entrepreneurial one, and the state at the time of the three revolutions in the 17th century. We have already mentioned what arguments the new economic doctrines furnished for the men of enterprise. Stimulated by his own interest, the man of enterprise became conscious of the great possibilities offered him by a continuously growing market and by other circumstances verified in it. From such a realisation they started the work of organising the production factors on an absolutely new basis and with pure economic criteria. To what extent Van Robais, a well-known textile entrepreneur from Abbeville, stuck to these criteria is shown by the

fact that, as early as 1718, he warned his dependants not to deceive themselves that 'the manufactory was made only for maintaining them' and he came to suggest that famous formula of clear capitalistic flavour: 'the manufactory is not made for workers, but the workers are made for the manufactory'.

Such a renewal of spirits, in an economic environment that was beginning to overheat, was due to the feverish activity of the new operators and it was also the promoter of many innovations in the market and of the profitable success of many pioneers.⁵¹

Examples such as that of Richard Arkwright, who died in 1792, leaving each of his sons £200,000 or Josiah Wedgwood, who possessed only £20 when he began working and bequeathed his wife one of the biggest British industries; or the shop-boy Robert Owen, who started working in Manchester in 1789 with a £100 loan and, in 1809, became the sole owner of the textile factory in New Lanark by paying his partners £84,000 in cash. Such examples encouraged numerous imitators also in sectors not belonging to the middle class; that is what happened within the French nobility in North Normandy in the first half of the 19th century.⁵² This encouraged imitation gave impulse to the Industrial Revolution.

V. WAR AND PEACE

Besides the primary factors (market expansion and entrepreneurial efficiency), the Industrial Revolution had secondary factors. After having illustrated the importance of the world market and the *entrepreneur's* action, we must dwell on the factors which favoured the production of the effects of the primary factors on a worldwide scale.

How much did the wars of the 18th and 19th centuries amplify the demand for goods, favouring with it the Industrial Revolution?

Fifty years ago Werner Sombart⁵³ put forward the theory that war gave a lift to the formation of capitalism and, in the course of its history, encouraged the Industrial Revolution. It has recently been noted by Nef⁵⁴ that to highlight the connection between war and economic development one cannot limit oneself to the study of 'the economic consequences on the production of instruments of war as if one could separate them

from the economic consequences of their employment'. And Nef, upsetting Sombart's theory, asserts that 'that which rendered possible the progress of industrial capitalism in North Europe and at the same time the first British industrial revolution, with an extended employment of machines moved by horses or by hydraulic force and a considerable concentration of capital in the mining and manufacturing enterprises controlled by private businessmen, was the state of peace, combined with the abundance of natural resources, of good ports for coastal commerce and the natural isolation given by the sea, an isolation without which it would have been more difficult to maintain the peace'.⁵⁵ The wars which devastated the European continent in the 16th century favoured the transferring of the sugar industry to Great Britain. The European wars of the 17th century encouraged the transferring of the metallurgical industries to the extreme North of Scandinavia. And it was the state of peace which fed the consumption of household objects (keys and locks, cutlery, scissors, pins, nails, soaps – and hence, boilers to make them) and encouraged the metallurgical industry in Great Britain that lived in peace; 'the peace permitted the British to make a wider use of metals than any other people before them'.⁵⁶ Departing from this fundamental principle, Nef denies that the formation of great permanent armies between the end of the 16th and the beginning of the 17th century had revolutionised the economy for the uniformity in the demand for clothing and armament. On the contrary, he reaffirms his thesis that peace had favoured progress more than did war. The method of war which was limited in its use and proper expansion in the first decades of the 18th century attenuated the destructions and thereby gave all those advantages deriving from the formation of powerful armies to industry, without causing damages to the economy from the massive war destructions. Then came the wars connected with the French Revolution and Napoleon. They 'did not contribute at all, and their preparation relatively little, to the economic progress of the continental nations which suffered from the violence of the destructions. The industrial revolution started in Great Britain in the decade of 1780, just before war began on the Continent; and on the Continent, the industrial revolution had a later start. This occurred after 1815 when the cannons

became silent. And the wars played an important part in this late starting'.⁵⁷

'It is amazing to note,' Fohlen⁵⁸ recently wrote, 'that [in France] the needs of the revolutionary wars did not give origin to any new technique; without doubt the metallurgical plants increased in number and productive capacity, but the techniques were not modified. The greatest changes are placed between 1815 and 1865'; that is, a period which did not see France engaged in any wars if exception is made for the Crimean War in 1854-5 and the Italian War in 1859.

Returning hence to the initial question concerning the contribution given by the international situation to the development in the demand for goods and therefore to the expansion of the market, one can answer that wars in the 18th and 19th centuries do not seem to have generated such an additional demand for goods as to consider war itself as being an important factor in the expansion of the market, even though it certainly also contributed in producing this effect. The state of peace seems to have contributed more in encouraging the expansion of the market. It developed that demand for goods that was connected with the increase in prosperity; it developed the supply of goods that originated from new investments and perfected products. And lastly, it did not hinder the exchanges between the various districts and hence favoured and instigated the profitable encounter of demand and supply.

The war's end left at the disposal of economic enterprises that mass of human energies which in war phases gives anything but productive works. In this sense, the peace left at the disposal of the economic activity in Europe alone those various hundreds of thousands of men who represented the mass of conscripts of each war year. The peace contributed not only to the demographic development and helped avoid the stasis in this sector, which was encountered in France during the revolutionary decades and at the time of Napoleon's Empire,⁵⁹ but also left an abundant labour force at the disposal of the new industrial enterprises.

VI. THE DEMOGRAPHIC PHENOMENA

Those who maintain that the Industrial Revolution had received the first stimulus from the agricultural revolution add

that the latter gave the first impulse to demographic development. Those who maintain that the agricultural revolution and the industrial revolution were concurrent and not subsequent, place the demographic bursting forth after the renewal cycle.⁶⁰ There is no doubt, however, that the demographic revolution was one of the co-operating factors of the Industrial Revolution, especially in the salient phase of this. The increase in the population, which increased the number of consumers, contributed to the increase in the demand of goods, and the growing number of available workers for the expansion of production favoured the increase in the supply of goods at decrescent costs. And the peace, which did not brake, but on the contrary benefited, the demographic revolution, also by discharging many men from military service, favoured at least the above-mentioned second effect of the demographic revolution and thereby confirming itself as one of the secondary factors of the Industrial Revolution.

One must not place the peace alone among the phenomena which left all the men generated by the demographic bursting forth at the disposal of the economic activities. Another phenomenon caused the exuberant population to prefer making for activities connected with industrial production. One refers to the phenomenon that consisted in the transferring of population from the country to urban centres and from agricultural occupations to mining and industrial ones. It was noted with what consistency and modality the phenomenon occurred with constant progress in the 18th and 19th centuries. It had three determining causes: two of repulsion and one of attraction. Of the two, the first cause consisted of the renewal and intensification in the enclosure of common lands (enclosures). From 1700 to 1760 in England alone, two hundred and eight acts of enclosures were approved which corresponded to 124,000 hectares; from 1760 to 1800 the enclosure acts rose to 2000 for 260,000 hectares. In 1801, by act of the British Parliament the enclosure of all the lands still free was ordered. It was estimated that 6,000,000 acres of common pasture-ground once enclosed gave rise to 5000 private properties. A considerable mass of long-established cultivators had to look for other employment; this constituted the labour reserve which favoured the growing industry. The proof that there really existed this connection

between the intensification of the *enclosures* and the progress of the Industrial Revolution is found not only in English history, but, by *contrariis* reasoning, also in French history. In France the revolution decreed freedom for the farmers and at the same time abolished feudal privileges, the sale of nationalised rural properties and thereby succeeded in preventing the flow of cultivators towards industry by transforming them into small landowners and thus keeping them in the country.

The second cause of the population's leaving the country was the abolition of serfdom. The decision in 1781 to abolish serfdom in rural areas in the central European countries⁶¹ mobilised labour, freeing it from the country and permitting it to move towards the manufacturing centres. An analogous phenomenon occurred in Russia in 1861. And thus, the European continent, by extending the measures that the free cities had taken in the 18th century, obtained the same effect of causing a movement of part of the population from agricultural occupations to manufacturing.

The cause of attraction of the population to the cities was the multiplying of business and industrial enterprises in the urban centres. From these arose a demand for labour which stimulated the movement of the rural populations towards the cities and the transfer of workmen and workwomen from agricultural activities to those of manufacturing. Neither should it be forgotten that the measures taken to alleviate the workers' lot, integrating insufficient wages with public subsidies, encouraged countrymen to go to the cities, where they could find profitable work and even more an integrated retribution.⁶²

The increase in population of the urban centres necessitated the construction of new habitations and hence of materials and implements necessary for the new housing and the furniture to decorate the new homes. From this, new possibilities opened up for building activity and for those industries connected with it.⁶³ In the urban centres, especially in the larger ones, the connection between them and the suburbs and the countryside, the concentration of an imposing mass of population which had to change places every day from its resting place to that of working, gave rise to transport problems. From this, in the first third of the 19th century, not only was there a direct impulse to extend the railway system, but in consequence an indirect impulse to

the industries which produced materials, machines and coaches.

It remains to point out the effects that the phenomenon of emigrations from the European continent to the other continents had, at last, on the diffusion of the productive renewal. The necessity to make voyages was certainly not discouraging for the quantitative and qualitative strengthening of the fleet. The phenomenon of European emigration was of remarkable importance for the diffusion of innovative techniques in countries outside Europe. The emigration also diffused usages and customs, and the characteristic needs of the European population, and, by doing so, opened new outlets for the European industry in the first place, and secondly, created a stimulus for the opening up of enterprises which produced locally what the immigrants had originally received from their native countries. The connection between the afflux of immigrants from Europe and the development of the United States of America depended upon the insistence of the effects that the population's change of place on an intercontinental scale had on the diffusing and, we can add (by just taking into account the peculiar contribution of the United States to the industrial development after 1840), on the intensifying of the Industrial Revolution.

From these points of view and other minor ones, which are easily illustrated, it can be concluded that because of the increase in the number of workers due to the changes in their demographical distribution, the so-called demographic expansion in the second half of the 18th century and in the first half of the 19th century had great importance sometimes in stimulating, at other times in qualifying, and always in sustaining, the renewal of agricultural, industrial and business production.

VII. THE AVAILABILITY OF CAPITAL

A historian wrote⁶⁴ that 'the big mines, the solid establishments, the well-constructed canals and the robust buildings of the industrial revolution were all produced from relatively cheap capital'. With this, he has recalled our attention to another secondary factor of the economic development in the period that we considered, inviting us to say precisely when and how it worked.

The British per capita income during the 18th century had more than doubled. According to King's calculations, it was 8-9 sterlings in 1688; according to Massie's, it became 12-13 sterlings in the middle of the 18th century; and utilising Pitt's income-tax data, one can estimate that it should have been £22 at the end of the century.⁶⁵ And even if it is true that the per capita income of 12-13 sterlings did not put England and Wales at the middle of the 16th century in better conditions than the Latin-American countries were around 1950, it is also true that the doubling or nearly doubling of this income in the following fifty years could have led to the accumulation of savings and the encouragement of investments. And that this supposition is well founded is proved by the news that the English public debt increased from £1,000,000 in 1688 to £80,000,000 at the end of the 18th century and that the legal interest tax, which was fixed at 10% in 1625, was lowered to 5% in 1714, and to 3% in 1757; both these are signs of the increased availability of capital.⁶⁶ What part of the net profit would end up being destined for the formation of capital in the diverse countries is indicated in the following table, prepared by Kuznets.⁶⁷ It

Table I

Percentage of the national net profit destined for the formation of new capital in four European countries and in the United States of America

<i>Years</i>	<i>Great Britain</i>	<i>Germany</i>	<i>Italy</i>	<i>Denmark</i>	<i>U.S.A.</i>
1700-40	5.0	—	—	—	—
1740-70	5.5	—	—	—	—
1770-1800	6.5	—	—	—	—
1810-20	7.5	—	—	—	—
1840-50	9.0	—	—	—	—
1850-60	—	8.4	—	—	—
1860-70	10.0	8.5	2.4	—	—
1870-80	11.8	11.6	4.1	3.7	13.4
1880-90	10.9	11.4	5.0	2.5	13.0
1890-1900	10.1	13.9	5.0	5.2	13.9

confirms the temporal priority of the British development and the reason for all its characteristic intensity up to 1870, after which, the supremacy passed to the United States of America, with 13.4% of the net profit destined to the formation of new capital.

This availability of capital permitted new investment through self-financed operations; these were also carried out in zones not as yet highly developed, as, for example, Piedmont⁶⁸ and more diffusely in France, where the textile industries, like the English ones, realised profit interests of 20–30% and the sugar industries that of 30–40%.⁶⁹ Such profits were realised in the initial phase because of the wide margins between cost and gain, and in the successive phases, because of the increased sales volume which compensated for the reduction of unit earnings. In respect of this, some calculations were made for the English cotton industry: it appears that in 1784 a pound of spun cotton cost 2s.; this could have been sold for 10s. 11d.; thus, a gain of 8s. 11d. was realised, which represented more than four times the cost. In 1812 the above-mentioned pound of spun cotton cost 1s. 6d.; the sales price was 2s. 6d.; the gain was 1s., i.e. practically two-thirds of the cost. Mechanisation had reduced costs; competition had reduced prices; the Industrial Revolution brought about reduction in unit gains, but profits still remained high, since the sales volume was augmented. After twenty years the above-mentioned process accentuated itself. In 1832 the cost of a pound of spun cotton dropped to 7½d.; the sales price also dropped to 11¼d.; thus, profit was reduced to 4d.; that is, a little more than half of the cost.⁷⁰

The three items above clearly point out that during the fifty-year period from 1780 to 1830 the Industrial Revolution reduced costs, prices and profits. However, by always maintaining these above 50% of the cost and consenting (because of the extension of sales) to the realisation of that unit gain in an always vaster field, it permitted the *entrepreneurs* to realise conspicuous global gains which could be used for consistent self-financing operations.⁷¹

Another way of procuring capital was that of transforming personal and family firms into public companies. The latter assumed the form of the joint-stock company, conveying it from the field of the colonial companies and banks, where it had begun to give good proof of itself during the 17th century, first in Holland and then elsewhere, to the field of industry, passing progressively from the mining sector to those of glass working, paper-making and silk manufacturing, and then to all the other sectors.⁷² And in France, where the new form affirmed itself

slowly, as was said previously, the Industrial Revolution encountered those difficulties pointed out on several occasions.⁷³ In Belgium the joint-stock companies greatly developed between 1830 and 1840, that is, at the moment of the industrial take-off.⁷⁴ This coincidence is also observed in Piedmont in the cotton industry, but to a lesser degree; it had recourse to capital from shares for 2,000,000 lire in 1829-30 and for another 70,000,000 at the end of the century.⁷⁵

Another financial source for industrial enterprises, especially in the initial phase of the renewal, was the advances that the merchants accorded to the *entrepreneurs* at the moment in which they gave them a certain order. As little by little industry intensified the working on its own account for only a foreseen demand, the use of the advances given by the merchants lost its importance, even though not yet cancelling itself entirely, in the course of the 19th century. If anything, the function of conceding advances passed from the ordering merchants' hand to those of the credit-furnishing bankers'. France also in this sector, due to the prolonged bad impression left by the disastrous experience of the 'System' of John Law, was not in the forefront, and so much so, that it only had sixty-six private bankers in 1776, the year in which Turgot gave new strength to the *Caisse d'escompte* that had timidly functioned from 1727 to 1759. However, in England, where the phenomenon took other dimensions and where from 1694 the Bank of England operated, the impulse given by the banking system was considerable.⁷⁶ From 1750 to 1820 banks multiplied themselves,⁷⁷ and the system was strengthened by the adoption, from 1825 on, of the joint-stock company form for banking enterprises. In 1832 there were already 110 English banks that had formed joint-stock companies. Foreign financiers, especially Dutch ones,⁷⁸ intervened to help integrate the financial action of the British establishments. In this way, the British pioneers did not lack the necessary capital.

The financial situation continued to improve in the 19th century, and at the start the availability of capital in England was such as to push bankers to search for investments on the Continent and in America. From 1816 to 1825 London granted credit to foreign countries for a total of £93,000,000.⁷⁹ However, during the next ten years certain operations, especially those made with America and Greece, revealed themselves to be less

productive and less safe than had been hoped for originally. This induced the capitalists to prefer to the speculative investments abroad, the return to the intimate association with internal economic initiatives. The promising start of railroad constructions offered a new field of intervention for the foreseen financing, so much so that already in 1840, the English economy was in a position to place at the disposal of new investments⁸⁰ a good £60,000,000 a year.

VIII. PRICE OSCILLATIONS

In the 18th century a typical phenomenon of the 16th century again became a reality; this was a gradual and constant rise of the whole price system. It concerned above all the agricultural sector and it showed itself in the period in which in the industrial sector, on the contrary, the beneficial effects of the incipient revolution started to be observed, that is, in the second half of the 18th century.

From a recent re-elaboration of data already rendered for Great Britain, it is possible to conclude⁸¹ that starting from the middle of the 18th century wheat, and, in the immediately following decades, other products, increased in price, with a tendency to more than double during Napoleon's war and, after peace was declared, to fall until minimum levels were reached in 1890. Analogous oscillations were authenticated for France⁸² and Germany.⁸³ From 1756 to 1790 wheat prices in Marseilles and Provence tended to increase from 50% to 60%.⁸⁴ In the same time period the intensity of this phenomenon could be considered nearly equal in seven markets in the north of Île-de-France, where, however, wheat prices tended to double whenever a wider period is taken into consideration, that is, from 1735 to 1790.⁸⁵ Also in Antwerp starting from 1815⁸⁶ a lowering movement began that continued to extend itself until the end of the century.

In Italy during the 18th century and up to 1815-20 prices continually and progressively increased. A hectolitre of wheat had an average price of 19.22 lire from 1706 to 1710 and increased to 51.83 lire in 1798, undergoing a further increase of about 30% until 1820.⁸⁷ Analytical reports encountered analogous tendencies in Verona.⁸⁸ In the Mantua area the prices of

five agricultural products tended to double after the middle of the 18th century to the end of the same. The price of wheat passed from 36·1 lire in 1752 to 70 lire in 1794. In the two above-mentioned years corn had a price, respectively, of 17·20 lire and 45 lire, that of hay 72 lire and 135 lire, while that of rice increased from 92·88 lire in 1756 to 138 lire in 1785 and that of wine from 108 lire to 276·35 lire in the same years.⁸⁹ Also in Naples, both in the city and in the country, an analogous phenomenon was encountered. After 1760 wheat prices started to increase and prepared the way for its doubling at the beginning of the following century; the index was 92·07 lire in 1762, 203·11 lire in 1793 and 240·35 lire in 1805. A similar tendency was manifested for other agricultural products but it was less evident for textile and colonial articles.⁹⁰

In Barcelona the prices of agricultural products started to increase after 1740 and increased with particular intensity after 1780. They had a tendency to more than double themselves in the decade 1790–1800, in respect to 1758–70 prices.⁹¹ In the New Castile, after 1730, prices had shown a marked tendency to double themselves; the increase in those prices of agricultural products anticipated those non-agricultural ones that followed at a distance and with a difference nearly always maintained around 10 points.⁹²

The Eastern European areas also encountered the above phenomenon. For the Polish cities of Warsaw, Cracow, Danzig, Leopoli and Lublin, some comprehensive indexes were calculated from which it can be deduced that cereal prices and those of products used for breeding purposes began to emphasise their upward movement in the twenty-year period 1741–60 and passed in 100 years' time, that is, from 1681 to 1700 to 1781–1800, from the index of 1798 to that of 3754 for the cereals and from 1086 to 2141 for the products used for breeding purposes, and thus increasing 100%. While the price of ordinary clothing tended to double itself, passing from the index of 415 to that of 785 in the same period of time, luxury clothing tended to diminish, passing from the index of 366 to that of 330.⁹³

This authenticated general increase in the price of agricultural products in Europe by stimulating imports produced the effect of extending the phenomenon to other parts of the world; thus, for example, also in the British colonies of America,

agricultural prices tended to increase, starting from 1764⁹⁴ and then, during the 19th century, to decrease, as was the world tendency at that time.⁹⁵

In sketching the general characteristics of the phenomenon, a historian recently attributed it to a lack of balance between agricultural production and population which had verified itself on a world scale.⁹⁶ Obviously, it can be done by overrating, generalising and perhaps anticipating the consistency of the demographic revolution on one hand and, on the other, retarding the agricultural renewal in its regard. If attention is recalled instead to other causes, for example, of inflationary type, it remains to explain the upward trend that verified itself in the agricultural field and that was not observed in the sector of manufactured goods. Whence, it arises that a definite nearing took place between price oscillations and industrial revolution. Theoretically, the effect of attenuating the increase in prices, at least in the manufacturing sector, was attributed to the latter. However, in the meantime, the capacity of interfering in the industrial renewal, incising on the cost of raw materials and retributions, on consumptions, on the standard of living and hence on the capacity of saving and on the connected capacity of new investing was attributed to the increase in agricultural prices. As can be seen, the problem is a highly interesting and a somewhat complex one.

The general picture is made clearer by the fact that, during the 18th century, the world's gold and silver production quantitatively increased. There was produced yearly 431 tons of silver in the period 1721-40 and 879 tons – practically double that amount previously quoted – from 1781 to 1800; gold production also more than doubled in the space of two decades, from 24.6 tons in 1741 to 60 tons in 1760. In order to evaluate the importance of this phenomenon, it can be added that, on the basis of the final levels reached, silver production was more than twice that of the 16th century and that of gold three times.⁹⁷ From the first to the second half of the 19th century gold production increased seven to eight times, while that of silver tended to almost triple itself.⁹⁸

The data reported above, while bearing in mind the extension of the market and the increasing exchanges, offer a serious argument in favour of the supposition that enumerates the

increase in the production of the precious metals among the causes of the increase in prices during the 18th century and strongly so in the last ten years of it. If this cause was true for the 18th century, it had to work even more intensely in the 19th century.

Contemporaneously, the issuing of bank-notes developed; it was begun by the Bank of England at the end of the 17th century. It greatly developed in the following century, integrated into the services rendered and the effects produced by the *promissory notes* of private individuals as well as by *inland bills* or internal bills of exchange. In Sweden the Bank of emission intensified bank-note circulation by 1300% from 1737 to 1762.⁹⁹ And even in France, where Law's experiment was a frightful recollection, paper currency circulation greatly increased. Between 1777 and 1781 the value of the bank-notes in circulation rose from 350,000 to 20,500,000 lire and that of discounted bills of exchange from 30,000,000 to over 150,000,000 lire. What happened then at the time of the revolution calls to mind the well-noted story of the catastrophic issuing of *assignats*. After the restoration bank-note circulation reached 69,000,000 francs in 1816. The circulation rose to 251,000,000 in 1847 and to 2,300,000,000 in 1880.¹⁰⁰

The third general cause for the increase in prices was the war which by imposing particular needs of fiscal deductions, besides that of issuing fiduciary money, contributed between the end of the 18th century and the first fifteen years of the 19th century to a further stimulus of the inflationary process which conditioned European economic development, exactly in the characteristic stage of the Industrial Revolution. After Napoleon's downfall and the coming of peace, prices again began to drop. A recommencement of the increase occurred in the middle of the century due to the Crimean War and the Civil War in the United States of America. The return of peace caused a renewal of the lowering movement.¹⁰¹

To the three causes of the inflationary process encountered up to now – that is, gold and silver devaluation, which was a consequence of increased production; increase in monetary circulation due to the greater volume of utilisable precious metals, to the increased issuing of banknotes and the integration of credit papers; increase in public spending due to the war

— we must add the effects of the war on the availability of goods. The French Revolution and the European wars which derived from it, by their destruction, subtraction of labour from productive employment and interference with circulation, reduced the quantity of offered available goods. To them, even supposing that there was no increase in demand or wastes that mobilisations and economic marasmus generally provoke, must certainly be attributed the increase in prices. This increase was strongly accentuated in the sectors having a set supply and growing costs, while it attenuated in those sectors having a flexible supply and diminishing costs. This is the reason why the general movement manifested itself first and more intensively on goods of agricultural origin whose market was besides pressed by the inflexible demand for goods of subsistence; these were subjected to a continual impulsion by the demographic revolution. When this slackened its pace in the latter half of the 19th century and, contemporaneously, there occurred consistent progresses in agricultural technique and market liberalisation, the movement of product prices turned in the lowering direction, reaching its minimum levels at the end of the century.

The general upward movement of prices, on the contrary, did not occur in the industrial sector. This was not due to a lack of general causes for the rise, but rather because in the industrial sector they were contrasted by the characteristic innovations of the Industrial Revolution. The mechanisation, by accelerating the productive rates, opposed the growing demographical demand, a more than growing supply generated by technological innovations. Therefore, the inflationary pressure of expanding demand was annulled. Moreover, the technical division of work, mechanical devices and steam power utilisation, by allowing a reduction in costs, counterbalanced by a wide margin those cost increases which could have been derived from higher raw material prices and from higher wages. And when the effects of cost reduction diminished, an increase in the prices of industrial products was avoided by the expansion of sales, which permitted the deriving of equally large total profits from earnings no longer coming from big differences between costs and gains, but from the multiplying action that rapid sale of a very great number of units produced.

It can be affirmed without any hesitation that the Industrial

Revolution, which was caused by the aggrandisement of the demand and the organised action of the man of enterprise to face it, annulled the characteristic inflationary process of the economy of the 18th and part of the 19th century. But in the sector of manufactured products with equal foundation, it can be affirmed that this process, showing itself almost without insuperable contrasts in the agricultural products and labour sectors, generated an impulsion that stimulated men of enterprise, who were operating increasingly broader markets ruled by the laws of competition to make use of new organisational forms and techniques. They were then enabled to reach lower and lower costs, to overcome competitors, to expand rapid sales and to realise more and more conspicuous profits. In conclusion, that much of a rise in prices, which from the middle of the 18th century on manifested itself in the world market and in the agricultural and labour sectors, was one of the contributory factors of the Industrial Revolution, since it sharpened the competition and risk, thus stimulating the man of enterprise to make a renewal.

The Industrial Revolution in turn, by expanding the possibilities of labour employment and distributing to the popular class a more diffuse and ample purchasing power, sustained the demand of alimentary articles by offering to agriculture prices which encouraged the expanding and intensifying of cultivation. Therefore, the innovation process, even though late-starting, extended to the agricultural sector; at first it increased landowners' sales and later it diminished the prices of agricultural products on a world scale.

At different times, in different ways and sectors, the price increases of the 18th and 19th centuries also played a remarkable role in the formation of profit and incomes, and in this way favoured savings in the entrepreneurial classes and the self-financing of the patronised enterprises. We shall return to the subject of the distribution of the produced wealth at another time.¹⁰² Until then, we cannot fail to recall that not only in the British areas, where the Industrial Revolution verified itself early, but also in later developing areas, e.g. Spain, the rising of prices was not followed at an equal pace and intensity by wage increases, thus creating the favourable occasion for the man of enterprise to make greater profits. With the data at his disposal

Hamilton¹⁰³ rendered evident that while in Spain, from 1730 to 1800, prices rose about 100%, wages rose only 20% during the same period and this had the consequence of diminishing true retributions. From this authentication, the American historian deduced the great advantage that was possessed by the men of enterprise, the receivers of profit and the stimulus that they received to enter into new initiatives. If, then, this promise did not practically verify itself in Spain or did not verify itself successfully, this depended on other factors, and does not allow the undervaluing of the importance that the growing stimulus from slight and persistent inflation gave to the productive renewal.¹⁰⁴ If a developing process had already started, the difference between prices and wages created by inflation gave rise to a chance income. Since such developing process already existed in Great Britain, British men of enterprise enjoyed such an income. In Spain, where the developing process had not yet started, such a chance income did not reach, in consistent form, the Spanish men of enterprise.¹⁰⁵

The increase in prices, which is characteristic of the beginning of the contemporary age, stimulated the innovations that went under the names of industrial and agricultural revolution. The connection between increase in prices and increase in profits and sales would have been greater if the working classes had not begun organising themselves in time, on various occasions and with different modalities, succeeding in this way in acquiring a continually greater portion, even though initially small, of the wealth produced.

The state was called upon now, to intervene, and it did so, by making constructive decisions and by assuming liberal positions. But on the whole, public action, that at times seemed to be contradictory, did not prevent the secular price oscillations from exerting their effects in all the directions that we have recalled up until now.

IX. ACCELERATION OF COMMUNICATIONS

When the topic of price oscillations was being treated, it was ascertained how their extension and intensity were conditioned by the expansion, at one time, of demand and at another of supply. This expansion depended upon the progressive unification

of single national markets and also upon the nearing of the realisation of a unique world market. The unification of national markets facilitated the rapid sale of agricultural products and manufactured goods, and in this way contributed in maintaining prices. This fact had also been comprehended by agricultural protectionists and above all by physiocrats when they proposed and supported freedom in the grain trade as a support for the spent agriculture. This freedom, on the other hand, also permitted action in the opposite sense; that is, curbing the excessive increase of prices in areas of high consumption and scarce production of agricultural products. This authentication led Manchester free-traders, who were supported by British men of enterprise but not by British farmers, to invoke freedom in importing grain. The men of enterprise welcomed it in order to limit the increase of wages, and the farmers feared it, since it was the cause of the reduction in grain prices. And it is, indeed, the perpetuating itself of the identical essence of liberty in grain trading from the 18th to 19th centuries – sustained first by ‘naturalists of evidence’ to the advantage of agriculture and then by ‘naturalists of necessity’¹⁰⁶ to the advantage of industry – that confirms how the free circulation of products would determine directly a curbing of the increase in prices of agricultural products and manufactured goods and, indirectly, a curbing of increases in wages, sales and profits.

The condition that rendered more or less efficient the governmental decrees for the freedom in inland trading was that of the improvement in road conditions and transportation means. Now, a characteristic aspect of the political, administrative, economic and social life of the contemporary age, also in its first two centuries, is constituted by the progressive improvement in the transportation sector. In order to establish links within the framework of the summarisation of the factors that helped the Industrial Revolution, we limit the calling of attention to the concrete and constant progresses that were made in transportation from the beginning of the 18th century to the second half of the 19th century and to the favourable effects which those improvements had on the actual unification of the national markets and on their integration into the big world market, which was in the process of formation. From these effects, more equally balanced encounters arose between

demand and supply, with attenuation of the recurrence and acuteness of scarcity phenomena. This fact was so relevant that it inflamed the fantasy of some naturalists of the necessity, inducing them to declare (as did J. B. Say in his outlet theory) the elimination of every phase of the general crisis of over-production.

But transport improvements, which included more modern roads, a denser, longer and handier canal network, the absolute novelty of railroad communications, the first attempts at long-distance broadcasting of news, steam-propelled iron ships and hence new speeds and capacities in marine transportation, the digging of the Isthmus of Suez precisely in the year (1869) of its inauguration, marked the peak of the first Industrial Revolution; these improvements did not only have an effect on the new dimensions of the national markets and on the consistence of that world one. Those improvements rendered substantial, continuous and growing the effects of market expansion on the Industrial Revolution. They inspired and sustained the innovative forces of *entrepreneurs* and rendered the innovations more remunerative. As time went on, these same transportation improvements rendered less transient and more remunerative the hard work of the farmers. They also encouraged them to undertake more intensive cultivation through the adoption of particular innovations. For the benefit then of both the manufacturer and the farmer, the transportation improvements helped to reduce costs in the procuring of raw materials, transferment of labour and rapid sales of products,¹⁰⁷ contributing in substance to the general diminution in the characteristic prices of the 19th century.

In a review, even if rapid, of connections between transportation development and industrial revolution, the incentive that it gave to the increase in the competition cannot be neglected. The easier movement of men, news, goods and capital, to which the progress in communication had contributed, decisively accentuated the competition. This means that it accentuated one of the conditions for the initiation and development of the race for innovations; this reduced costs and facilitated rapid sales, a characteristic process of the Industrial Revolution.

Finally, we must recall that easier, more frequent and less

costly transportation facilitated the acquiring of new knowledge by men, either through their own direct experiences or by learning from those of others. The progress in the 18th and 19th centuries not only led to a world market, nearing the demand and offer of goods, but also gave rise to a unitarian human culture, thereby bringing the relationships between men closer together. It had great results, even in our day in the development race, in every branch of knowledge. The artificial, political borders, surviving feudalism, fell. National communities, of which two striking examples were Italy and Germany, in the second half of the 19th century achieved their complete political unity.¹⁰⁸ Entire continents, such as North America in the 18th century and Central and South America in the 19th century, gained their freedom from European capitals which had colonised them. States all over the world started to feel the need for universal encounters and agreements which would reduce the differences and integrate the work accomplished. Whence precisely in the middle of the 19th century the first conferences that abandoned their exclusively political aspect based on a continental equilibrium, took place in Vienna after the Napoleonic wars passed little by little from the field of health to that of labour and communications, nearly anticipating the attempts of those general agreements that were made after the world wars in the 20th century to create a natural expression of the first attempts made in the 19th century.

X. SCIENTIFIC RESEARCH

It is superfluous to repeat that the 17th century marked a profound step in the history of science. It established the basis for a renewal which, starting from method, could lead to an uninterrupted sequence of discoveries and their subsequent applications in every technological sector. These applications began to take place in the 18th century, and their precision seemed to have been given a second impulse by the *Theatrum Machinarum*, published in Leipzig by J. Leupold between 1724 and 1732. In it were presented the problems that arise in choosing the best method for the pursuit of new inventions, in such a way as to have also exerted some influence on Watt.¹⁰⁹

Researches of this kind did not start only in Leipzig. All over

Europe there multiplied the recollections which were read in the Academies and the competitions which were proclaimed by these institutions for a continually improving appreciation of scientific applications to the practical and also productive ends of agricultural and manufacturing activities.¹¹⁰ The first projection of a work, entitled *Descriptions des arts et métiers*, was begun at the Academy of Science in Paris in 1695. In 1761, four years after the death of Réaumur, who directed it, its publication was started and immediately afterwards the German translation of it was begun, which also attested to the importance that the cultural society attributed to the treating and divulging of similar problems. Great evidence of this is also furnished by the terms found in Diderot's *Encyclopédie*, which dedicated itself to the illustration of economic and technological problems.

The same University society could not detach itself from such a trend of things: the study of technology was introduced in the Universities of Halle and Frankfort in 1727; Anders Berch began an economic course at the University of Upsala in 1741. This subject was also introduced at the University of Naples in 1754 by Antonio Genovesi and at the University of Pavia in 1769 by Cesare Beccaria. Just at that time, at the University of Glasgow, Adam Smith started to give a continually more ample expansion, in his courses on Moral Philosophy, to economic terms, thus preparing the way for the publication in 1776 of *An Inquiry into the Nature and Causes of the Wealth of Nations*. The academic societies renewed themselves not only by favouring moralists, who held lectures on the problems of wealth, and cameralists, who faced quantitatively both the population and economic problems, but by welcoming by the side of the traditional faculties the new Polytechnic ones. The *École polytechnique* for the preparation of military, naval, civil and mining engineers arose in Paris in 1794-5. Other Polytechnic schools were established, in Prague in 1806, in Vienna in 1815 and in Karlsruhe in 1825. The scientific revolution of the 17th century, after having contributed to the development of the Industrial Revolution in the 18th century, produced, in the 19th century, the university revolution, with the Polytechnic ones leading the way, then followed by the economic departments and hence by the technical faculties for the various branches of science, beginning with the one related to the agricultural sector.

Just on the eve of the French Revolution, Lavoisier, in his *Territorial Wealth in France*, noted that agriculture suffered from the consequences of scarce agricultural instruction. This was so, even though the controller, Bertin, influenced by the physiocrats, had tried since 1760 to diffuse the Sociétés d'agriculture, the first of which was established in Rouen in March of 1757.¹¹¹ A few years later in Great Britain the Society of Arts proclaimed prizes for agricultural subjects and directly in 1793 was established the Board of Agriculture, that is, an association for encouraging agricultural studies and discussions. In Italy, Florence had since 1753 in the Georgofili Academy the propelling centre for the studies and practice of agricultural renewal. Such renewal was also suggested by the functionaries of the Republic of Venice during an apposite meeting in 1768. They promoted the founding of agricultural academies in other terra firma towns, basing them on the one existing in Udine.¹¹² Imitating this pattern, the United States of America also had the Agricultural Society. The first one was founded in Charleston in 1785; afterwards, there arose others in Philadelphia, New York and in 1792 both in Massachussets and in Connecticut.¹¹³

An idea of the interest that was shown for rural economic problems can be gained from the enthusiasm that was stimulated by zootechnic progress. From 1761 to 1818, there were at least twenty European cities which had a veterinary school: from Leon to Pisa; from London to Rome, and from Madrid to Copenhagen. In one of these schools, that of Charenton, Arthur Young in 1787 had 100 students. Their origins from the two extreme parts of France and also from other European countries proved what interest this initiative had excited everywhere. And what had promptly occurred in the veterinary field repeated itself in the agricultural in the middle of the 19th century. The first public schools for agricultural practice, both on an elementary and high school level, were created in France starting from 1848; in this manner was integrated what previously had occurred only through private initiative.

In the industrial sector too, the problems of development excited research; and if sometimes they were carried out in the shop of the artisan or on the manufacturer's premises when they were concerned with the perfectioning of devices, they were transferred to research centres when they were concerned with

the procedures and innovations that invested the field of mechanics, physics and chemistry. One of these centres was the British Lunar Society that assumed a particularly practical and resounding importance during the 18th century because of its discussions and because of the experiments made by some of its members. Scientists and industrialists gathered at the Lunar Society and they mutually encouraged themselves to carry out interesting experiments. One of them was the famous Matthew Boulton, who took part with Watt in diffusing the steam-engine. The same Boulton transformed the tannery industry in Birmingham, revolutionised the coining of money, introduced scores of improvements in various working processes and founded the Soho Manufactory that was lauded for the many innovations that it adopted. Dr James Keir was another member of the Lunar Society; he invented a new process for soda preparation and in 1780 erected a factory in Tipton to exploit it.¹¹⁴

And it was truly the chemical sector which showed how indispensable the scientists' participation was to the renewal process. A typical case is offered by the bleaching process in which Lilley rightly interested himself.¹¹⁵ The increase in the demand for cloth and the multiplication of the supply to meet it soon showed how inadequate the traditional bleaching process really was (slow and costly). This method consisted in the following: a prolonged bath in water, boiling in slightly alkaline solution for three hours, rinsing, drying in the sun for several days, a forty-eight-hour bath in a weak acid (whey), another drying and then a final washing in soapy water. All these operations had to be repeated successively six or seven times, taking up, from April to September, ample grassy areas in order to hang out to dry the pieces of cloth. After mass production was reached, it was necessary to **think of other** procedures to be used. At first, the whey was replaced with sulphuric acid, but it also became necessary afterwards to think of a renewed production of this. In 1736, I. Ward replaced alembics with carboys and in 1746 J. Roebuck adopted lead chambers, thus reducing in the space of fifteen years' time the price of sulphuric acid by 99% (i.e. from 400d. to 3½d. per pound). By such an improvement in the sulphuric acid production, bleaching became economical and thus it freed the textile industry of the first obstruction. The second one, concerning the time required, was overcome

between 1785 and 1799 first by the use of chlorine and later by hypochlorites and a chlorine-lime solution and finally by a powder obtained letting the chlorine react upon slacked lime.

Another example of the correlations between acceleration and economising of the productive process and the progresses made in chemistry could be gathered following the histories of soap, soda and potash preparation. However, we would arrive at the conclusion that the progresses made in the fields of pure and applied chemistry had an extremely important role in the industrial progress.¹¹⁶ At any rate, it is sufficient to list a brief series of dates to point out the extent of such a connection: 1827, Wöhler isolated, even though imperfectly, aluminium and he carried out the first organic synthesis of urea; by these achievements, he paved the way in a single year for the successes of the aluminium industry and for those of the industries based on organic chemistry; 1838, Regnault polymerised vinyl chloride, preparing the way for the manufacturing of plastic materials; 1856, Bessemer revolutionised the iron metallurgy field with his converter; 1856, Zinin isolated aniline and opened up new and vast horizons for the dye industry; 1867, Nobel discovered nitroglycerine and then dynamite, which was the premise for the development of the explosive industry; and in 1865 Solvay discovered a new procedure for soda manufacturing, provoking the renewal of this important sector. These half-dozen events, occurring in the final stage of the Industrial Revolution between 1827 and 1871, point out to what extent chemistry prepared further developments in the subsequent century.¹¹⁷

Even though we are not able to dwell on the sectors of electricity and explosion engines, whose affirmation and intensive utilisation took place in the 20th century, it cannot be overlooked that the first theoretical and practical steps in both fields were accomplished in the 19th century.

Even in a collateral branch of the true and proper productive activity, such as that of administration and book-keeping, which became more and more important in a mass economy consisting of imposing productive banking and trading centres, very important progresses were made in calculating machines, in the wake of Pascal's and Leibniz's inventions of the 17th century. By utilising the punched card idea, which worked in design weaving and was used in the looms of Bouchon, Vaucanton and

Jacquard, Charles Babbage built at the beginning of the 19th century the Analytical Engine by means of which it was possible to make additions, subtractions, multiplications, divisions and operations on variables. However, this device remained unused since the first calculating machine put to use was the Arithmeticon, constructed by Thomas de Colmar in 1820. In 1875 Babbage constructed the Brunsviga, which paved the way for further realisations at the end of the century.

Two important facts which have already been mentioned previously contributed to the diffusion of the ideas that from time to time introduced innovations in the diverse sectors; these were: the multiplication of the daily and periodical printed matter, especially of that pertaining to scientific and technical divulgence and specialisation, and the intense exchange of people and news from one country to another and from continent to continent. Thanks to these exchanges, India and China had a noteworthy influence on European technical progress in the productive processes of the textile and ceramic sectors.¹¹⁸ Also by these means the world tended to unify itself, and this propensity greatly benefited cultural and scientific progress. This, by permitting notable innovations also in the fields of productive and administrative technics, favoured the increase in the rhythms of production and circulation. Therefore, in a period orientated by mass demand, it permitted the corresponding by part of a mass offer, thereby facilitating the reduction in costs and prices and procuring for the more foresighted and timely organisers conspicuous profits. After having taken into consideration all these measures, we can say that the progress made in pure and applied science was one of the contributing factors, but not the least important one, of the Industrial Revolution. A further evidence of its importance can be gathered from an examination of the 'inventions' that were made and exploited in the 18th and 19th centuries.¹¹⁹

NOTES

1. P. Mantoux, *La Révolution industrielle au XVIII^e siècle*, 2nd ed. (Paris, 1959), p. 20.
2. *Ibid.*, p. 74.

3. P. Mantoux, *La Révolution industrielle au XVIII^e siècle*, 2nd ed. (Paris, 1959), p. 122.
4. Ibid., p. 506.
5. C. H. Wilson, 'Il traffico oceanico', in vii of *New Cambridge Modern History* (Milan, 1968), Ital. trans., p. 31.
6. P. Deane, *The First Industrial Revolution* (Milan, 1968), p. 1.
7. In the successive synthesis ('The Industrial Revolution in England' in *The Fontana Economic History of Europe*, iv 2, p. 61) P. Deane calls attention to three particular factors that were determining from the start of the Industrial Revolution around 1740. These were: the development of the international market, particularly outside Europe, the unusual sequence of good harvests from 1710–50 and the increase in population.
8. J. Godechot, *L'età delle rivoluzioni*, Ital. trans., p. 78 and ff.
9. C. Barbagallo, *Le origini della grande industria contemporanea*, II, pp. 66 and ff.
10. R. M. Hartwell, 'The Causes of the Industrial Revolution. An Essay in Methodology', in *Economic History Review* (Aug. 1965), pp. 167–8.
11. B. S. Clough, *Storia della civiltà e sviluppo economico*, Ital. trans. (Naples, 1969), pp. 218–19.
12. W. R. Brock, 'L'Inghilterra', in *New Cambridge Modern History*, vii (Milan, 1968) 350.
13. P. Bairoch, *Rivoluzione industriale e sottosviluppo* (Turin, 1967), pp. 73–5. Also Gill (*Lo sviluppo economico*, Ital. trans. (Bologna, 1968), pp. 69–71) gives great importance to the agricultural factor as the reason for the time preference of the Industrial Revolution in Great Britain.
14. P. Jaccard, *Histoire sociale du travail* (Paris, 1960), p. 196.
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 27. W. Schlote, *British Overseas Trade* (Oxford, 1952), p. 51.
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9 Fluctuations and Growth in the 19th Century

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ECONOMISTS have devoted much attention to the interaction of cycles and trends, but among historians there is still some dichotomy in the treatment of these subjects. Trends are normally discussed in terms of long-term forces, for example, population change, capital accumulation, technical progress and persistent attitudes, e.g. social attitudes towards occupational success. Fluctuations have tended to be analysed independently and in terms of influences which exhausted themselves in the short term. The main purpose of this essay is to consider, at least in a speculative fashion, the relations between fluctuations and growth in the 19th century. The first sections are devoted to the sources of fluctuation in the British economy in the 19th century before and after the 1850s. The division at the mid-century is, of course, artificial; many of the characteristic features of cycles in the first half of the century are found in some degree in those of the second; but there were significant changes in emphasis. The third section is devoted to some reflections on the effect on growth of the changes in the sources of fluctuations; and the fourth section contains a more general consideration of fluctuations and growth.

I

In pre-industrial society the main sources of fluctuations were short-term variations in climatic conditions, particularly in rainfall and temperature. These affected the availability of one source of power – water – and the supplies of raw materials and food. By the early 19th century not much economic significance is to be attached to such variations in water-power and in

supplies of raw materials as were due to the English climate. But fluctuations in the yields of the British grain harvests were still of importance for the economy as a whole. The effect of harvest fluctuations was not uniform in all areas; it depended on the size of fluctuation and on price-elasticities of demand. But one can identify a general pattern.

Harvest fluctuations exercised a dual effect. The first was via the internal distribution of income: demand for grain was inelastic, and prices changed more than quantities. Obviously a farmer whose crops suffered exceptionally severe damage from wind and rain lost heavily; but, for the farmers as a whole, small harvests sold for more than large ones, at least for the variations in harvest-size of the magnitude actually experienced. Therefore bad harvests caused a transfer of income from consumers of agricultural products to the agricultural interest. Within the agricultural interest there was a shift in favour of landowners and tenants. Since a small harvest required less labour than a large one, the demand for agricultural labour was reduced, and, since labourers worked harder when it was more difficult to buy their normal requirements of grain, the effective supply of effort increased.

On balance, those who gained from these transfers of income had a lower marginal propensity to buy industrial goods than those who lost. The main beneficiaries of temporary high grain prices were the tenant farmers, and these used increased profits to pay arrears of rent and repay debt. Some rentier landowners benefited at one remove from the payment of arrears; and possibly new leases made in periods of high prices were negotiated on more favourable terms to the landlord. Any increase in landowners' incomes was likely to be spent on luxuries or the more prompt payment of interest on debt. Without following the increase in income throughout the system, it is impossible to be precise. But there is no reason to doubt the contemporary impression that the shifts in income which occurred in years of bad harvest and high grain prices were unfavourable to manufacturing industry.

Harvest fluctuations also exercised an influence on economic activity through foreign trade. Through the foreign trade multiplier they exercised an influence on the level of income in the United Kingdom; the increase in grain imports necessary to

make good a deficient domestic harvest had a depressing effect on income. Through the effect on the balance of payments, harvest fluctuations influenced activity which was sensitive to the movement of interest rates on the money market; heavy grain imports led to exports of bullion, and stringency in the money market; as, for example, the poor harvests of 1852 and 1853, by necessitating large imports of corn in 1854, in war conditions, contributed to monetary pressure.

Harvests were the *primaevae* source of fluctuations in economic activity. Other fluctuations rose from the nature of the industrial structure in the early 19th century. Several features of the structure contributed to instability. In almost all industries there was a large number of small and separate enterprises. In some cases, conditions approximated to those of perfect competition; producers were ignorant of each other's intentions and unable to influence the prices they obtained for their products. In other cases there was some degree of market imperfection; because of difficulties of communication and traditional links with local producers, the number of concerns serving a market was sufficiently small for them to have some degree of regard to each other's intentions. In either case there were likely to be sharp fluctuations in product prices. In the more perfect markets, a bias in the producers' judgement might lead to gluts; in the small imperfect markets, hedged about by traditional links, it was difficult to offset a contraction of traditional demand by finding new customers. Similar considerations also applied to the purchases of inputs.

The effect of these fluctuations in product prices on the industrial concerns was accentuated by three other features of the industrial structure. In the first place, enterprises were commonly run by their owners, and the liability of the owners for the debts of the enterprise was commonly unlimited. There were, of course, ways of limiting liability, even before the Acts of 1858 and 1862, but they were not easily available to small industrial concerns.

In the second place, working capital was as important and in most cases probably more important than fixed capital. Much the greater part of industry was organised on the domestic system in which a large part of the capital was embodied in work in progress, and in advances to suppliers and customers,

and very little in bricks and machines. Even in that minority of industries organised on the factory system, working capital was more important, in relation to fixed capital, than it became later.

The owners of the enterprises were not wealthy enough to provide all their own capital, but they had sufficient assets to enable them to borrow working capital. This they could do with reasonable ease in normal times by means of bills of exchange. By the early 19th century a highly organised market in these bills had developed, facilitated in some of the most important industries by the fact that the products were reasonably standardised and therefore provided suitable backing for bills of exchange. Because of the extent of borrowing for working capital and the fact that it was borrowed on bills of exchange, enterprises were very vulnerable to sharp changes both in prices and in conditions on the money market.

These instabilities arising from the way industry was organised were accentuated by financial influences. In the early 19th century there were a large number of country banks, most of them small and of recent origin. Many had small resources, little experience and reserves which were unduly low in relation to the calls on them. Their note issues provided a large part of the circulating medium and were subject to wide fluctuations.

Moreover, the major part of trade was financed by bills of exchange. So long as people could be found to discount these bills, they operated like a supply of currency under private control. When attempts were made by the Bank of England to restrict credit, industry could for a time frustrate the Bank's intentions by creating accommodation paper, i.e. bills used purely to raise short-term money and not to finance an actual trading transaction. Thus the supply of short-term credit was unstable and might fluctuate in ways which were perverse from the point of view of the economy as a whole.

The Bank of England itself was slow to assume the functions of a central bank and to take responsibility for controlling the supply of credit, and, even when it did so, it made mistakes of management out of inexperience.

For all these reasons the fluctuations in activity tended to be accentuated by instability in credit supplies. There was no

restraint from the financial side on the upswing; and a rush for liquidity, and bankruptcies among the banks, accentuated the down-swing.

A flexible banking system, closely geared to bills of exchange, made it easier to raise finance for commodity speculation. Other factors encouraged such speculation. Raw materials were, in many cases, drawn from distant and underdeveloped areas. Uncertainty in London about crop prospects, in the sources of supply and lack of knowledge in the underdeveloped areas about the state of the market for their primary products provided scope for speculation.¹ Before the development of the telegraph, it took a long time for news of changes in supply and demand to pass between the U.K. and many of its main sources of supply. Moreover, in many cases, it took a long time before substantial increases in supplies of imported raw materials could be obtained, and the supplies of stocks normally held in England were too low to act as a buffer; changes in English industrial demand tended therefore to have an exaggerated effect on the demand for raw materials. The increased imports of primary products during the boom which resulted from this type of speculation incidentally imposed a strain on the balance of payments.

One of the clearest instances of a speculative import boom was 1825. In 1824 cotton stocks in the United Kingdom were run down because the relevant U.S. crop had been small. The revival in the Lancashire cotton textile industry in the course of 1824 therefore ran up against difficulties in raw material supplies earlier than would otherwise have been the case, and shortages began to appear towards the end of the year. Speculation, already taking place among company shares, particularly mining shares, spread to the cotton market and then to other commodities, and lasted until the early summer of 1825. The speculation in cotton broke when it became evident that the marginal suppliers, e.g. Egypt, were capable of supplying unexpectedly large supplies.

Speculation in commodities was perhaps more important in 1825 than in the booms of the three following decades. But it remained an element for some time. And the possibilities of speculation were enhanced by the policy of manufacturers and retailers in respect of stocks; in explaining the financial deficit of

1837-8, Spring-Rice said the failure of his calculations was due to the fact that manufacturers and retailers imported or held bigger stocks during a boom in anticipation of rising prices.²

The state of joint stock organisation was another feature of the early 19th-century economy which encouraged speculation. The development of joint stock companies had been distorted by the Bubble Act of 1720; legislation in the early 19th century made the establishment of such companies easier, and the number increased, but traditions of behaviour were slow to develop both among the promoters and among the investing public. Thus some enterprises were promoted by men who were primarily interested not in the long-term prospects of the enterprise, but in the profits of promotion, and in the commissions and the short-term gains that could be made by the sale of shares on a rising market. And some investors, for their part, were also concerned primarily in quick gains from resale.

The possibilities of speculative gain were enhanced by the call-up system on shares. The system whereby shares were issued for large sums, of which initially only a small part was called up, increased the chances of making profits on a rising market; and also made investors vulnerable when share prices started to fall. On a more fundamental level, the growth of a class of savers increased the possibilities of speculation. The growth of the National Debt, particularly during the wars against France (1792-1815) and the payment of interest from very regressive taxes increased the importance in the economy of the passive investors. These people could not easily put their new money into industry, because it was not organised on a joint stock basis; nor into the funds, since the government no longer borrowed. They were potential backing for any joint stock booms, foreign investment booms, as well as investors in canals and enclosures.

Thus several of the cyclical booms down to the 1850s culminated in speculative manias in shares, speculation which arose primarily because, in some sectors, traditions of responsibility had not developed in joint stock enterprise, either among promoters or the investing public. These manias centred mainly on sectors which lent themselves to joint-stock organisation, i.e. transport and public utilities.³ But they linked up, in ways not yet fully explored, with the speculation in imported primary products which we have already mentioned. And indirectly

they affected investment in manufacturing industry, for one of the fields for promotional activity was banking – e.g. in 1792, 1825 and 1836 – and the booms in bank formation influenced industrial activity.

Speculative manias, as we have said, were particularly liable to centre on activities which lent themselves to joint-stock organisation. Among the activities organised in this way were railways; they were financed by the issue of shares to the public and were therefore particularly likely to generate manias of the kind already described. But railways had certain other characteristics which were relevant to fluctuations:

(1) The minimum unit of railway building, the line or the system, was much larger in relation to the relevant resources than were other contemporary projects.

(2) Railways were liable to competitive over-building. This is most evident in the U.S.A., where, once long-term developments had created favourable conditions for railway building, an initiative by any one railway promoter stimulated activity by all his competitors, which continued until they had exhausted the funds available. Though the competition was not as intense in the U.K. as in the U.S.A., the British railway booms were also in part the result of oligopolistic warfare.

(3) In the early days of railway building, the profitability of railways was less predictable than the profitability of most types of industrial investment, so that it was easier for people's expectations about them to become extravagant.

The economic instability of the first half of the 19th century can thus be explained partly by the persistence of pre-industrial sources of fluctuation, mainly harvests, and partly by the organisation of industry and finance in the early phases of industrialisation. What of the fluctuations that arose from the interaction of investment and income?

Each of the major booms of the period saw a large amount of real investment. The most important components were usually transport, e.g. canals in the 1790s and railways in the 1830s and 1840s. There was also a residential building component, for house building in the first half of the 19th century seems to have fluctuated *with* the cycle. Investment in industry was a much less important component, and much less important than it finally became. Only in the 1825 boom was investment in

manufacturing industry a very large component. This was largely because, within manufacturing as a whole, fixed capital was less important than circulating capital, and a great deal of manufacturing investment which occurred during a boom consisted of the accumulation of working capital and finished goods. There were, of course, large units with modes of production which were capital intensive by the standards of the time; but over the industrial field as a whole fixed capital was not very important. Even the new textile factories did not embody a great deal of capital in relation to output.

It is difficult to determine how far the investment during booms was induced by changes in consumers' incomes. Very little, one would suppose, in the case of the canals and not at all in the case of the railways; possibly a good deal in the case of housing. The position in manufacturing industry was complicated. On the one hand the marginal propensity to consume English-manufactured goods was not so great as it was later in the century: a lot of any increase in income took the form of increasing food consumption, and the agricultural investment so induced does not seem to have had a strong cyclical character. On the other hand a great part of an increase in demand for manufactured goods was concentrated on 'factory' as opposed to domestic industry. So long as there survived very large areas of obsolete hand-worked industry, the *entrepreneurs* who adopted newer techniques could reckon on getting a much larger share of any new demand. To this extent the accelerator so far as 'modern' industry was concerned was stronger than it later became.

Whatever the balances of these considerations in industry, it is clear that, taking investment as a whole, the accelerator was weaker than it became later in the century. By contrast, the multiplier effects of constructional investment in the early 19th century must have been considerable, since it employed a great deal of labour, much of it unskilled, so that a high proportion of any additional income was spent.

But the main point I wish to make is that the fluctuations in the 'real' elements were influenced by financial and speculative forces to a much greater extent than later in the century. The speculative mania itself involved the creation of new capacity. It came to an end not simply because hopes were frustrated but

also because of lack of balance in the investment undertaken during the mania. A disproportionate amount of investment took place in certain lines. In particular, during manias, funds derived from working capital tended to be diverted into fixed capital and especially into those types of fixed capital which attracted most attention during the mania. This was a 'real' source of weakness during the mania, because it was not possible to use new fixed capital unaccompanied by the appropriate complementary investment in working stocks. These imbalances were 'real'. But they existed – or existed to the extent they did – because of the company organisation and financial institutions of the period which made it difficult to discern the relative profitability of different types of investment.

We have considered the fluctuations in Britain in the first half of the 19th century as if they had occurred in a closed economy. Gayer, Rostow and Schwartz⁴ argued that fluctuations in *exports* were a major source of fluctuation in this period, initiating major upswings when they coincided with a favourable investment situation in Britain and minor upswings when they did not. This thesis and the general influence of movements of the components of the external balance have been examined in the article by Professor Matthews to which reference has already been made. He argues, with particular reference to the 1830s, that short-run fluctuations in exports to overseas markets other than the U.S.A. and continental Europe were a product rather than a cause of increasing activity in Britain; internal revival caused an increase in British imports (and therefore in the incomes of our customers) and in the willingness of our exporters to grant long credits. This interpretation has been challenged in the case of New Zealand, and the extent to which short-term in Britain's external accounts were an independent source of fluctuation in British economic activity is still undetermined. But it is a reasonable deduction from the size of the British economy in the early 19th century that events abroad were not as important a source of fluctuation as they became later.⁵

If the account we have given of the sources of fluctuation in the first half of the 19th century is right, no very complicated explanation is required for the collapse of booms or for revival after depressions. Industry and finance were organised in such

a way that speculative manias and liquidity crises were likely to occur, and enterprises were particularly vulnerable to changes in prices and in credit conditions. The collapse of speculative hopes and the abrupt contraction of credit eliminated many firms; but as soon as circumstances again allowed those concerns which had survived resumed expansion. For, despite the sharpness of the crisis, it was evident from experience that in the long run expansion paid the men who undertook it. Moreover, by the 1830s at latest, people had come to regard the cycle as the normal course of things; Spring-Rice, in his budget speeches in 1838 and 1839, emphasised that trade depression would not last. Trade revived partly because businessmen expected it to. It took some time before conditions were favourable for another major boom; memories of the previous depression had to grow dim and enough new people had to enter industry who had had no experience of depression: for example, by 1836 many industrialists were men who had come of age since 1825. In so far as there was any periodicity about fluctuations it was probably the result of these two facts: fading memory and the rate of turnover of businessmen.

II

In the second half of the 19th century some of the main sources of fluctuations which we have considered in the first half of the century waned in importance. This was obviously so in the case of harvests. Britain came to rely much more on imports for her normal supplies of foodstuffs and therefore fluctuations in the domestic harvests were of much smaller significance for income distribution and for the money market. Quite apart from this agriculture became much less important in the economy.

In the second place the legal position of the stock companies became more clearly defined; they increased in number and size, and their organisers acquired experience. The investing public became more familiar with investment in joint stock, partly from practice, partly because of organisational improvements in stock markets; as a result, the mania element disappeared from English booms. There were manias in the 1820s, 1830s and 1840s; and a burst of speculation and company promotion in 1852-3, which, according to Tooke, was reminiscent

of the railway mania of the 1840s. The 1856 Joint Stock Act produced no speculation, perhaps because the underlying investment situation was not propitious but possibly too because of changing attitudes among promoters and investors. The years after the 1862 Joint Stock Act provide less ambiguous evidence; there was a great burst of company promotion in the four years that followed, but no real mania. Nor was the major boom of 1869-71 capped by a mania.

In a comparable way the development of the banking system reduced the elements of instability. Joint stock banks amalgamated, and branch banks developed. The number of country banks was reduced by bankruptcy or amalgamation. There was an increase in stability and prudence among financial institutions. The provision of the medium of exchange was in stronger hands, and the growth of a national banking system meant the rise of the cheque system and the decline of the inland bill as a means of financing trade and remitting money.

Finally, a number of developments reduced the opportunities for speculation in primary products: long-distance transport costs fell, the producing areas were increasingly developed, means of communication became easier and produce markets became more sophisticated. Partly for the same reasons – increasing efficiency of transport and communications – it became less important to hold reserves to meet disparities in time and place, and inventory fluctuations became a smaller element in the trade cycle.

As the earlier sources of instability became less important, the importance of fixed investment in manufacturing became more important. There was first of all an increase in 'factory' industry at the expense of domestic industry, which was in most cases a shift to fixed capital from working capital, and an increase of the more capital intensive at the expense of the less capital intensive. There was also a change in the structure of industry, with increasing weight attached to industries where fixed capital was important, e.g. iron and steel, engineering, coal-mining (which became more expensive in capital as mines became deeper) and shipping.

As fixed capital became more important in industry, the fluctuations in the rate of capital formation assumed greater significance as a source of fluctuations in the general level of

activity. Industrial fixed capital was more sensitive to changes in income, and for this reason the possibility of fluctuations induced by changes in income became greater. And as per capita incomes rose, there was an increase in the marginal propensity to consume domestic-manufactured products. The accelerator became more important. It becomes more illuminating than for the earlier part of the century to interpret fluctuations as autonomously generated by the interactions of investment and income. To put the point schematically, the instability of the later 19th century arose from the process of accumulation itself; the major sources of instability in the earlier part of the century arose from nature or from the existence of institutional arrangements which were external to the process of accumulation.

Finally, among the changes, the changes in Britain's external accounts became much less a reflection of Britain's internal activity. Other economies grew to a size which, absolutely and relative to Britain, was greater than in the first half of the century; as they grew they were subject to independent fluctuations.

III

We have argued that the sources of instability in the first half of the 19th century were, in a sense, external to the process of capital formation and that this became less so in the course of the century. There is therefore some point in asking whether the types of instability most evident before the 1850s were or were not favourable to capital formation.

At least in the case of large indivisible investments which needed a large outlay, like transport systems, it can be argued that, without the excitement generated by a mania, and the ready response of credit during the boom, not enough real investment would have taken place to effect them. Though much of the money invested during a mania was siphoned off into purely financial reorganisations and promotions, representing no real economic achievement, much real investment was carried out during the mania. For example, the 1845-6 boom in railway shares and projections was out of reason for the time. Had all the lines authorised by 1848 been built England would have had 12,000 miles – a length not actually realised till

some twenty years later. Nevertheless, as Tooke observed, 'it [the mania] enabled this country to pass almost at one step, and by a single sharp and effectual effort of self denial on the part of middle classes, into the possession of the most complete system of railways possessed by any country'.⁶

It is this sort of belief in the beneficial effects of unrestrained booms that lies behind the judgement that the United States owed the pace of economic development to wild-cat banking, and behind the fears of the opponents of the Bank Charter Act of 1844.

There are some considerations on the opposite side. It can be argued, in the first place, that the boom merely compressed, into a shorter span, investment which would have taken place in any case, though more evenly spread out over time. The argument is particularly plausible in the case of a boom which was capped by a mania, for the collapse of the mania so frightened investors that the subsequent revival was delayed. In the railway speculations of the 1830s and 1840s, shareholders lost much of their investment and saw much of their money go to obtain Parliamentary sanction and other promotional purposes, and this led to a set-back to new construction.

It can also be argued that, though the main expansions of capacity occurred during the booms, it was not always the right capacity. While it is true that the boom showed up bottlenecks and gave *entrepreneurs* an incentive to overcome them, it also made them concentrate on the quickest ways of expanding output, in order to take advantage of boom conditions while they lasted. The quickest ways of expanding output were not necessarily – and were perhaps very seldom – those which promised the greatest advance. Nor was capacity created with an eye on current relative prices and immediate shortages always well directed. A boom, it can be argued, diverted entrepreneurial effort to short-sighted decisions; businessmen made more mistakes the more quickly they were moving.

Examples of misdirected boom investment are not difficult to find. There was certainly misdirection of investment during the canal and railway booms in the sense that some of the capacity created never yielded a normal return. The effect of the 1869–73 boom on the iron industry was certainly bad: the chronic shortages of the boom caused an expansion of the iron industry

in the most quickly and easily expandable places and in sectors – malleable iron in old locations – which subsequently handicapped the industry.

In the boom of 1881–3 there was considerable capital investment in shipbuilding and the yards were all occupied. But there was no pressure to reduce costs, technical progress stopped and a lot of ships were built which in the event no one wanted. The same boom saw considerable misdirection of investment in the steel industry: ‘the fundamental difficulty of the [U.K.] Bessemer steelmasters [in the later 1880s and 1890s] was that they had grossly overestimated the future demand for rails when they laid down their plant in the first half of the ‘eighties’. The capacity of steel-rail mills in 1893–4–5 was equal to more than three times the largest annual output.⁷

It can also be argued with specific reference to the major railway booms that investment was so vigorous that a ceiling of men and resources was reached, and that some other forms of investment – with better long-term prospects though with less capacity to mesmerise investors – were frustrated. The railway systems of Western Europe and the U.S.A. might have been built as rapidly and with less cost in real terms if they had been built gradually; as, for example, the railways were in Australia, where government policy in railway building was contracyclical. In the late 19th century British railway building was cyclically determined, and in so far as it was accelerated during the booms the acceleration was not warranted by long-term developments, for much of the railway construction never paid.

On the whole I am inclined to conclude that the extraneous circumstances which in the 19th century made for violent booms were favourable to the creation of capacity, and that the increase of knowledge of new techniques acquired in this way outweighed the fact that some investment was misdirected because it was made under the influence of short-term considerations. The growth of a more stable banking system, of larger joint stock companies with more experienced leadership and longer expectation of life, were obviously in themselves factors favourable to growth. But there was a sense in which the U.K. suffered from a lack of speculative manias after the mid-century.

The booms in Continental Europe in the later 19th century

did in a number of cases contain a large element of speculation, e.g. the *Gründerzeit* of 1869–73 in Germany (Strousberg came several cycles later than Hudson). This was partly because, in several parts of the continent, the railways were built later than in England, and partly to the primitive nature of banking and stock exchange organisation. In the regions of recent settlement a ‘mania’ element was introduced by speculation based on the expectation of rapidly rising land values.

There were certain types of investment which proved in the event to be desirable, but which were so large and so uncertain in prospect that only *entrepreneurs* in a very euphoric state would be prepared to carry them through. Such types of investment were clearly most characteristic of the regions of recent settlement where a new area had to be provided with its complement of overheads. But investment of this type also occurred in already settled countries. And it was more likely to be undertaken in the conditions of exaggerated enthusiasm engendered by a mania.

IV

We turn now to consider the relations of these fluctuations to long-term trends in the growth of the economy. There are four logically conceivable views of the relation of fluctuations and growth.⁸

(1) Fluctuation and growth were quite independent of each other.

(2) They were joint products of some common factor.

(3) The growth determined the fluctuations.

(4) The fluctuations determined the growth.

There were certainly some fluctuations which were independent of the underlying trends, e.g. those due to harvests, inventory movements, seasonal credit movements, financial crises associated with wars. Fluctuations from these sources did not arise out of long-term growth. They probably had some effect on growth, since businessmen and farmers changed their views in the light of what was happening in the short-run even if they knew that the short-run would soon be over. But, except for a run of good harvests, it is unlikely that these factors had *much* effect in shaping long-term trends. This type of fluctuation was characteristic of the period before the late 18th century.

The second possibility is that trend and fluctuation, though not related directly to each other, were both the result of a common factor. For example, it might be that the rate of growth and the violence of fluctuations were produced by the type of *entrepreneurs*, optimistic *entrepreneurs* with volatile expectations producing both rapid growth and violent fluctuations. This is a view suggested by Professor Kaldor: 'the same forces which produce violent booms and slumps will also tend to produce a high trend rate of progress'.⁹

The third view is that the long-term trends determined the shape of the short-term fluctuations. One can suppose, for instance, that there was a ceiling set by resources and technical knowledge, and a floor set, for example, by the propensity to consume. The ceiling rose in the course of time as a result of long-term changes in technical knowledge, labour and capital, but in the short run it was fairly rigid. The cycle would then oscillate between ceiling and floor, possibly, for example, in ways suggested by Professor Hicks's model of the trade cycle. The ceiling and floor would determine the turning points of the cycle, and the cycle itself would have little if any part to play in determining ceiling and floor. This is one form in which we may specify the impact of the trend on the pattern of the cycle. The implication is that where the underlying long-term forces were favourable to growth, booms tended to be long and vigorous and depressions short and shallow; and conversely when the underlying forces were unfavourable. One instance of the view that trend factors shaped the cycle is Professor Hansen's argument that the depth and duration of the great depression of the 1930s was in part due to the existence of long-term stagnation.

The final view is that the cycle determined the trend. This view implies that the trend resulted from a succession of cycles; each one of these could have taken a different course, thus resulting in a different trend. When the character of the individual cycles has been explained, there is no residue which needs to be explained in terms of the trend.

These two last views can be combined, as they have been by Professor Higgins. 'There is a two-way relationship between cycles and trends, the one amplifying the other.'¹⁰ When the trend forces are favourable to growth, booms are long and vigorous and depressions short and shallow; so that the cyclical

forces boost the underlying forces and the economy actually achieves the rate of growth it is capable of. Conversely, when the trend forces are unfavourable, the cyclical experience reinforces them and the economy grows less rapidly than it could.

For the historian such eclecticism is attractive, for to him one of the main purposes of models and hypotheses is to help him make sense of particular episodes. Each of these views is capable of yielding some insight into some aspects of some cycles. But, in the space of a short essay, I find it simpler to consider the fourth of the views outlined above, which seems to me the model which, on the face of it, is the most consistently helpful in the interpretation of 19th-century experience.

For this last view to be true we have to explain, without recourse to any autonomous long-term influences such as population growth why successive cyclical booms should rise higher. The argument involves some sort of ratchet effect.

(a) This might be a kind of Duesenberry effect; i.e. the increased investment during the boom increased the supply of consumer goods and raised consumers' notions of what was a minimum tolerable standard of living. This increase in conventional standard of living set a floor to subsequent depression, because people drew on their savings to maintain it. With the very low standards of the 19th century one would have expected this mechanism to have operated quite rapidly. But, of course, this would only set a floor. A similar effect might be produced if there was a shift in the distribution of income over the phases of the cycle, in favour of profits during the boom and in favour of wages during the depression. In this case consumption would be maintained and possibly increased during the depression.

(b) Either of two developments might raise the ceiling. Investment during the boom created external economies, and increased technical knowledge; and perhaps over-optimism by *entrepreneurs* may have promoted investment which, excessive in relation to income at the time it was made, turned out to be self-justifying. It is almost certainly this class of effects which were of greatest importance. The more vigorous the boom, the more likely it was to show up bottlenecks and concentrate effort on overcoming them; the more likely it was, too, to give businessmen experience of those new techniques which could be adopted

only when embodied in new capacity. On this view the ceiling and the floor were not independent phenomena; they were epiphenomena, the result of the size and shape of the cycles for an explanation of which we have to turn elsewhere.

It is scarcely a matter of dispute that the creation of most capacity was associated with booms and occurred either at the height of the boom or in the 'off-boom' periods, i.e. half-way up the up-swing and half-way down the down-swing. The main framework of the canal system in the U.K. was laid in the booms of 1790 and 1810, and the railway system in the booms of 1836 and 1845. The great improvements in shipping in the later 19th century – especially the adoption of more powerful engines – was effected in the booms of 1879–82 and 1885–90. If one looks at, say, the mining industry at a given date from the point of view of its age structure it is clear that most of the mines were sunk in the boom periods. The main new sinkings in coal mining in the later 19th century were in 1869–73 and the later 1880s. And the same is true of blast furnaces.

Moreover, a large part of the resources put into use in the 'modern' industrial sector during the boom were obtained by drawing on the resources underemployed or inefficiently employed in the non-industrial or pre-industrial sector. And the rate at which resources were shifted was very dependent on the vigour of the booms. This is to say, in the factory sector, the ceiling was very flexible and could be shifted upwards by a vigorous boom.

It was not invariably true that all the investment which contributed to long-term growth took place around the booms. The major investment in the U.K. in Bessemer steel in the late 1870s and in open-hearth steel in the 1880s was made in depression. But this was partly because of the exceptional vigour of the 1869–73 boom when so much investment was undertaken that investment in steel was deferred. And clearly the major investment was done during booms.

And the booms not only saw the major creations of capacity; they enlarged the labour force, led to the creation of general facilities and to the acquisition of technical knowledge; for example, the effect of the boom of 1869–73 on the U.K. coal industry. Though it led to the opening of drift mines which were disappointing later, it also led to the deepening of mines more

rapidly than would otherwise have taken place and this accelerated the acquisition of geological knowledge; and it incidentally accentuated the need for fuel economy by consumers.

The role of depressions is more difficult to assess. A common view in the Victorian literature on the subject was that the depression was not only an inevitable consequence of the boom but that it had positively beneficial effects. It was a useful purge of the excesses of the boom. During a boom, shaky enterprises were started with no good long-term prospects, the amount of dishonesty increased (J. K. Galbraith's bezzle); the depression eliminated the shaky and the dishonest. It also eliminated the inefficient, badly managed third-generation firms, perhaps kept alive too long by the booms. The domestic system was destroyed in the depressions not the booms. In these two ways, depression released resources for firms which could make better use of them, sometimes new firms which could take the lead in the next upswing and boom.

Not only were the excesses of the boom purged. The capacity created during the boom was completed, refined and adapted. The contraction of profit margins during a depression, provided it was not severe and prolonged, promoted cost-saving innovations, stimulated a search for products which would attract customers.

This is not the whole story. In the commercial convulsions of the first half of the 19th century enterprises were more likely to go bankrupt for mistaken decisions about buying and selling or about the timing of credit transactions than for long-term inefficiency as producers. Many firms were eliminated just because, in the financial circumstances of the time, bad luck was heavily penalised. Some resources were wasted in the process of winnowing. But it is also true that some resources were transferred from less to more capable hands as the result of depression. Moreover, more effort was applied to achieving technical progress when markets were short. For example, the technical improvements in shipbuilding – the use of steel and the improvements in machinery – took place in depression, in the late 1870s and mid 1880s.

The boom provided more opportunities of gaining experience of new techniques; the depression provided perhaps a greater

incentive to search for new techniques. Whether the push or the carrot was the more effective depended partly on the technical possibilities of an industry, e.g. in soap making in the later 19th century there was little possibility of technical development and therefore the reaction to slump was amalgamation. It partly depended on the sort of *entrepreneurs* an area or an industry had; whether they preferred a bird in the hand, or, instead, took long views; and whether they responded to falling profit margins by contracting all activities, or by improving and streamlining the capacity created in the boom and by getting new methods into production. It depended too on how long memories businessmen had, and how soon they forgot the splendours of the preceding boom. The significance of the depression was also influenced by the source of progress in new products or new methods, whether, for example, progress came from large firms which could survive a depression or from new firms which, however promising their potential, might be nipped in the bud during depression.

In the present context, however, the precise distribution between boom and slump is not the point. The argument is that a large part of the explanation of the trend growth rate is to be found in the independently determined character of the trade cycles, that fluctuations were an agent of growth and not merely epiphenomena. Each cycle was shaped in part by its own particular incidents, e.g. the early 1850s by the Crimean War. But we are thinking now of more general influences which bore on the character of the cycle. Some of these influences we have discussed in § I. One example is the banking system: the strength of banks, the regulations or conventions about reserves, the degree of central control. Another is the degree to which a particular type of 'investment' lent itself to speculative activity. Yet another, but an influence of a different order, was the character of *entrepreneurs*. Professor Kaldor argues that the strength and duration of booms is very greatly affected by 'the degree of recklessness of a society's entrepreneurs'. The argument is that while the external conditions of a society impose a maximum to the possible rate of growth, the extent to which in any society this maximum is achieved depends to a large extent on the vigour of its *entrepreneurs*. This is an influence we have not discussed in the present essay, but it is evident that the perform-

ance of *entrepreneurs* in a given industry or economy is not simply the result of the available economic opportunities. It reflects also such factors as the social groups from which *entrepreneurs* are drawn, imperfections in the 'market' for business ability as a result of barriers to social mobility, and the attitude of the particular society to business achievements.

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NOTES

1. Hughes, *op. cit.*, pp. 256-74.
2. Hansard, vol. 42, cols 1366, 1374.
3. R. C. O. Matthews, 'The Trade Cycle in Britain, 1790-1850', *Oxford Economic Papers* (1954), pp. 9-13.
4. Gayer, Rostow and Schwartz, *op. cit.*
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6. Tooke and Newmarch, *A History of Prices* (1857), v, pp. 389-90.
7. Sinclair, *op. cit.*, p. 289.
8. See B. Higgins, 'Interactions of Cycles and Trends', *Economic Journal*, LXV (1955), 594-614; R. C. O. Matthews, *The Trade Cycle* (1959), ch. XIII.
9. N. Kaldor, 'The Relation of Economic Growth and Cyclical Fluctuations', *Economic Journal*, LXIV (1954), 70. For a later and more extended treatment see N. Kaldor, 'Capital Accumulation and Economic Growth', in *The Theory of Capital*, ed. F. A. Lutz and D. C. Hague (London, 1961).
10. Higgins, *op. cit.*, p. 63.

10 Notes on Secret Price-cutting in Oligopoly¹

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I

IN a frequently quoted, and sometimes misquoted, passage Adam Smith wrote: 'People of the same trade seldom meet together, even for merriment or diversion, but the conversation ends in a conspiracy against the public, or in some contrivance to raise prices.'² Much of modern analysis of competition in oligopoly situations goes further: if their number is small, people of the same trade behave as though they were joined together in a monopolistic conspiracy even when they do not meet together and do not converse with one another.

The logic of the small-number situation, it is commonly argued, is such that competitors, however unfriendly their feelings towards one another and however few their contacts with one another, will behave, without actual collusion or deliberate concerting of action, as if they had met and had agreed on some common course to limit competition in a manner profitable to themselves. This teaching perhaps had its greatest influence in a few American legal decisions of the 1940s, such as that in the tobacco case, in which the courts seem to have gone far along the road of inferring illegal collusion from the absence of price competition or of individualistic pricing in an oligopolistic industry.³ It is more generally influential in the widespread attitude that little can be done through measures of public policy to promote competition, more especially price competition, in oligopolistic trades or industries into which the entry of additional competitors is difficult for one reason or another; and that, in particular, the rendering illegal of formal

price agreements among oligopolists is likely to have little economic effect.

Oligopolists, it is argued, *ordinarily* do not compete in price because, in the words of W. H. Nicholls, it is not natural, normal and intelligent for them to do so.⁴ If one of the rivals reduces his price in the hope that he will secure an increase in profitable business, he will find that his rivals are obliged to reduce their prices also, in order to maintain their business. The result is a lower level of prices, with lower profits, and possibly losses, all round. Each rival comes to recognise the interdependence between his pricing decisions and those of each of his few rivals. Recognition of oligopolistic interdependence produces a recognition of a community of interest among the rivals, and the forswearing of the use, in normal circumstances, of mutually frustrating and destructive forms of competitive conduct, notably price competition. Although there may be no overt or formal collective settlement of a unified policy as to prices and price competition, the result is much the same as if there were a deliberate concert of decision and action. The process by which each non-colluding oligopolist is constrained to act as if he were party to an agreement Fellner has aptly called 'spontaneous co-ordination' which issues in a 'quasi-agreement'.⁵ The periodic adjustment of the level of prices to take account of changes in costs or demand takes place on the initiative of the price leader whose judgement as to what best serves the group's interest his rivals have come to respect (although they may challenge the leadership from time to time).

The interdependence theory of oligopoly pricing is not accepted universally. An alternative explanation harks back to Adam Smith's dictum. Competitors will always be better off as a group if they can collude effectively and act as if they were a unified monopoly: this is so regardless of whether their pricing decisions are highly interdependent (a question largely of their number) and whether they recognise whatever interdependence there might be. However, there are many obstacles in the way of effective collusion, both in establishing the initial agreement and also in maintaining and enforcing it. These obstacles tend to be less serious the smaller is the number of firms in the industry or trade. In tight oligopolies, the negotiation and effective implementation of a price agreement or understanding

may sometimes be so simple that the traces of collective action may be readily concealed or be lost in history. Indeed, one might encounter situations of 'tacit collusion' in which each of the small number of competitors was following a common course of action, without having had any communication with his rivals, but simply in the (correct) expectation that each of his rivals would be doing likewise.

Although there are differences between the interdependence theory and the cartel theory of pricing in oligopoly, both theories give rise to the prediction that prices and profits in oligopoly will be higher than prices and profits in comparable competitive, i.e. polypolistic situations. It is not the purpose of this paper to compare the two theories in any detail, or to consider the numerous complexities of many real-world situations which are omitted in simplified theoretical constructs, or to examine the influences which determine differences in the (minimum) extent of conscious collusion necessary in various situations for the participants effectively to achieve long-term monopoly profits.⁶ The purpose of these notes is, first, to consider the extent to which the similar predictions of the two theories may have to be modified for situations in which there is scope for secrecy in pricing, and, subsequently, to examine and illustrate some possible implications of secret price competition for the trading and pricing practices of industries.

II

The fact of secret price competition in some oligopolistic markets is, of course, well known not only to businessmen but also to economic historians and economists. But before Professor Stigler published his article in 1964⁷ it seems that no attempt had been made in an analytical model of oligopoly to allow specifically for the possibility of secrecy in pricing. Stigler's article, which is concerned primarily with secret price competition in oligopoly, is therefore a notable landmark in the development of the economic analysis of oligopoly; and for this reason alone – but also because of the interest of everything which Stigler writes on price theory and industrial structure – his analysis and discussion deserve detailed consideration. Stigler presents 'a systematic account of the factors governing

the feasibility of collusion';⁸ and the analysis would appear to apply *a fortiori* to the quasi-agreements of spontaneous co-ordination in oligopoly predicted by the interdependence theory.

The emphasis in the present discussion is on the theory of oligopoly price set out in Stigler's article. Unfortunately, however, the theory, in which the detection of secret price cutting figures prominently, is presented by its author in a tantalisingly brief and sketchy manner; and a critical examination of it runs the risk that too much may be read into a few paragraphs or that what may have been intended as no more than *obiter dicta* are regarded as significant and central. With this warning to the reader of the possibility of misinterpretation, the discussion that follows considers selected features of the theory, focussing attention on issues which may have relevance for other attempts to construct models of oligopoly under conditions which provide scope for secret price competition. The discussion is conducted within the analytical framework of Stigler's model.

The elements in the theory presented by Stigler can be set out in the following arrangement of statements in his article.⁹

(a) 'It is a well-established proposition that if any member of the agreement can secretly violate it, he will gain larger profits than by conforming to it.'

(b) 'It is . . . surely one of the axioms of human behavior that all agreements whose violation would be profitable to the violator must be enforced.'

(c) 'Enforcement consists basically of detecting significant deviations from the agreed-upon prices.'

(d) 'Once detected, the deviations will tend to disappear because they are no longer secret and will be matched by fellow conspirators if they are not withdrawn.'

(e) 'If the enforcement is weak, however – if price cutting is detected only slowly and incompletely – the conspiracy must recognize its weakness: it must set prices not much above the competitive level so the inducements to price cutting are small, or it must restrict the conspiracy to areas in which enforcement can be made efficient.'

Stigler states that a defecting member of an oligopoly group will cut prices secretly to secure additional business so long as he believes that his violations of the agreement (or quasi-agreement)

are not being detected. In the absence of the policing or monitoring of individual transactions by or on behalf of the group – and in the rest of this section we ignore this possibility – secret price-cutting can only be ‘detected’ inferentially. A member of the group will infer that violations are occurring when he sees that he is obtaining less business than he could reasonably expect to obtain if no one was cheating, or when he sees a fellow-member obtaining more business than he could reasonably be expected to obtain if he were not cheating. Secret price-cutting ‘must be inferred from shifts of buyers’; or, more generally, ‘the basic method of detection of a price cutter must be the fact that he is getting business he would otherwise not obtain’.¹⁰ But individual market shares are not likely to be completely stable from period to period even when there are no violations. Some shifting of business occurs for a variety of reasons, and the extent of ‘normal’ shifting or variation may differ greatly from one industry or trade to another. The determinants of normal variability in market shares (henceforth referred to, for convenience, as ‘market-share variability’) are explored by Stigler in a novel and fruitful way, and the discussion constitutes a notable contribution to the study of industrial organisation. This part of the discussion is not examined here.

Stigler concludes that, *ceteris paribus*, the greater is the market-share variability, the more scope there will be for profitable secret price-cutting; for each conforming seller will, as it were, be unsuspecting within a wider range of observed changes in market shares. Thus the greater is the scope for secrecy in price-cutting because the wider the protective shield,¹¹ the larger will be the volume of undetected secret price-cutting. And Stigler predicts on the basis of his theory that the greater is the market-share variability (a phenomenon determined exogenously by factors such as the number and size of buyers) the closer to the competitive level will be the effective level of the oligopoly price.¹²

The statements labelled (d) and (e) above imply that in the model there are members of the oligopoly group who will not cut prices secretly unless and until they discover, by inference, that the agreement is being violated; and that, on the other hand, there is at least one member of the group who will cut

prices secretly until his violations are discovered and the agreement 'enforced'. This assumption of the co-existence of enforcers and violator(s) will be adhered to at first; given this assumption, some implications of the theory will be drawn out.

It seems reasonable to suppose that if one member of the group assesses the situation and concludes that he can cut prices up to a point without being detected, he will appreciate that rivals also will be capable of making the same sort of assessment and reaching the same sort of conclusion.¹³ When deciding on the extent and scope of his own secret price cuts, therefore, the individual price-cutter will have to allow, as well as he can, for the high probability, if not certainty, that some of his fellow-members will also violate the agreement; and he will have to assess the likely extent of their aggregated violations. For if, collectively, all the violators over-do their price-cutting, detection of the violations (if not the identity of the individual violators) will follow, and the consequential 'enforcement' of the agreement by the non-violators will be assured.

But collusion among the violators, giving rise, in effect, to an agreement to share out the available 'illicit' market, seems wholly implausible. For it is difficult to see how the violators could make themselves known to one another; and it is also difficult to see how any member with a propensity to violate the original agreement could be relied upon by others of his ilk to honour their 'new' agreement. Hence unco-ordinated rather than co-ordinated violation is to be expected. The larger the number of unco-ordinated violators, the more pronounced will be excessive secret price-cutting, and the sooner it will occur; and with it go detection and enforcement.¹⁴ This is so not only because of the effect of larger numbers *per se*, but also because the total of business which can be diverted with safety varies inversely with the number of violators. Thus ease of (inferential) detection of secret price-cutting is not related solely to market-share variability, as is implied in Stigler's theory; it is also related to the number of violators. The presence of more than one violator breaks the simple nexus between market-share variability and the ease or difficulty of detection.

The statement of the theory does not refer to the number of violators or the influences affecting the number.¹⁵ If, however, as seems reasonable within the ambit of the behavioural and

other assumptions of the theory, the proportion of violators is positively related to market-share variability, it follows paradoxically that detection of secret price-cutting is likely to be quicker and easier, the greater is the width of the shield apparently protecting the individual violator. Thus, the prediction that the effectiveness of oligopolistic collusion in terms of the strength of its influence on price is inversely related to market-share variability cannot be derived from the theory, even if its other conditions are satisfied.

It may however be more compatible with the behavioural assumptions of the theory to suppose not that each violator tries to allow for the violations of others so as to avoid detection but that each behaves as if he is the sole violator. Detection would then be unavoidable and also quick when there is more than one violator. The conclusions stated in the preceding paragraph would be reinforced.

Nevertheless, for the purpose of the analysis let us suppose that by contrivance or good fortune the violators manage to contain their aggregated violations so that the impact upon the sales of the non-violators is not large enough to alert them to the true state of affairs. It would not follow then that the price set in the agreement or quasi-agreement need be at or near the competitive level, even where there is much market-share variability. The volume of sales 'legitimately' transacted at the agreed monopoly price may be large enough to render it unprofitable for the non-violators to bring about a reduction in the open price anywhere near to the competitive price. It may be repeated here that, within the context of the theory, the volume of sales which can be diverted with safety (i.e. without being detected) from the non-violators is related inversely to the number of violators. Paradoxically, the larger is the number of violators, the smaller is the impact of successful violation upon the volume of sales transacted at the agreed monopoly price.

The preceding paragraphs have avoided the issue of the response of the detected violator: it has been assumed that, as in the theory, the violator will discontinue his violations when his violations have been detected. One may question, however, whether the violator will give up his price cuts when he knows that these have been detected inferentially.¹⁶ He might conceivably have reason to do so if he were satisfied that no other

member of the group was engaged in violations (detected or undetected), or, if there were other violators, that they also would give up their price cuts; and he would have to be satisfied further that the enforcing members would withdraw their matching price cuts once he had returned to the straight and narrow path of conformity. Unless the member had so firm a measure of confidence in the probity of the fellow-members of the group, there is no reason why he should mend his ways when discovered, for otherwise he would be placing himself in a less profitable position. But whether or not he had such a high degree of confidence in his fellow-members, his most profitable response might be not to withdraw his price cuts but instead to embark on a series of further price cuts, in the expectation that these will not be detected so long as the enforcers maintain their previous matching cuts.¹⁷ In short, on two different and independent grounds one may question the efficacy of the enforcement mechanism.

Finally, the assumption should be scrutinised that there are several enforcing members who do not cut prices secretly except by way of enforcement. Unless some members of the group were prepared to trust one another, it is implausible that law-abiding enforcers and violators would co-exist in a situation in which, according to the statement labelled (*a*), above, secret violation by any member is profitable to that member. If it would appear profitable to each member for him to violate the agreement, and if there were no *esprit de corps* or mutual trust among the members or groups of them, it would seem inevitable that each member would violate the agreement in an individualistic, but frustrated, attempt to increase his profit as compared with his profit when all are conforming. (Even if at first some members were prepared to behave as enforcers, experience of detected violations by others would cause them to revise their attitude.) In such a situation the effective price will be at the near-competitive level indicated in statement (*e*). However, this result would be likely regardless of the relative ease or difficulty of detecting price cuts by inference: provided that market-share variability was above some (probably low) threshold level (and so long as mistrust prevailed), the effective price would tend to come to rest close to the competitive level. In an atmosphere of mistrust and of lack of confidence in the restraint exercised by

the individual members of the group, detection and its avoidance would have no role to play. The individual member would contrive not so much to avoid detection as to avoid being out-cheated by his rivals.

It is only if the extent of mistrust among the members of the group is positively related to the extent of market-share variability that the latter comes into the picture. Where, as a consequence of large market-share variability, mistrust is widespread and the proportion of enforcers is small, the effective oligopoly price will be near the competitive level. But this low level of price would not be a reflection of the difficulty experienced by any non-violating member(s) in detecting, by inference, the violations of the agreement or quasi-agreement: detection would be easy, as has been shown above. The low level of price would reflect, instead, the circumstance that 'enforcement' would not work and that the non-violators would find it unprofitable for them to adhere to a materially higher price. The statement of the theory, however, does not refer specifically to considerations of this kind, and makes no mention of the determinants of the proportion of violators and would-be violators in a group.

III

The central question is whether the members of an oligopoly group trust one another enough for each to refrain from secret price-cutting when there are some opportunities for that practice. Where there is little or no trust and some scope for secret operations, effective prices in the affected parts of the market will be close to the competitive level. Where there is complete trust and the trust is not misplaced, effective prices will tend to be at the group profit-maximising level – regardless of the market-share variability. In intermediate situations, where some of the members trust one another but others cannot be trusted, the outcome will depend in part on the relative market shares of the two groups. If the former group is large enough, strategies might be available which render it unprofitable for any would-be violator to violate: the latter would be worse off if he violated, and hence is deterred.¹⁸ Alternatively, even where such strategies are not available, it might not be the best policy for

the law-abiding group to set the (open) price at or near the competitive level. It might be more profitable for that group to set some higher price which maximises its profits, taking into account the volume of business which the violators might be expected to secure at each level of price adhered to by the non-violators.¹⁹

An important question, then, is whether, in a situation in which there is scope for secrecy in price competition, the oligopolists, or most of them, will be able to develop and maintain consistent and justified expectations about each other's self-restraint in the face of the temptation individually to take advantage of the apparent opportunity for individual gains from secret violation – gains which become losses if all or several take advantage of it.

It is hard to believe that the necessary self-discipline and set of justified expectations do not emerge in some industries and trades, and do not persist for long periods. The exercise of self-discipline, it should be noted, is not 'irrational' in the context: it is profitable if practised by each of the (postulated) small number of firms. It is hard to believe, that is to say, that in certain circumstances each (or many) of the members may not come to forswear the (unprofitable) practice of secret violations in the justified confidence that his rivals similarly have come to forswear it. It seems to be no more realistic, in general, to suppose that members of an oligopoly group will persist in cheating even when they can predict (or know from experience) that all will be worse off than it is to suppose that they will come to conform to a code of conduct in which secret price-cutting is limited as is open price-cutting. It is difficult to accept, in particular, that the only deterrent to cheating is the fear of detection and its consequences. The prospects of the unprofitable outcome of general cheating may be as potent a deterrent.

Thus the assumption that each member of the oligopoly group is a profit-maximiser does not necessarily lead to the conclusion that every member will behave myopically and individualistically as might be expected in the large-number situation. This is not to assert, however, that recognition of the 'unprofitability' of secret price competition will mean that there will be no secret price competition where there is scope for it. The development of a shared sense of the undesirability of secret

price-cutting, and of the necessary degree of trust among members of the group, must depend upon a variety of conditions and circumstances.

Not all of these factors and influences fall within the province of the 'sociology of small groups' into which an economist will stray at his peril. However, there appears to be no systematic body of evidence, historical or contemporary, to enable one to go beyond an enumeration of some of the relevant factors and influences. The number of firms is obviously a crucial factor – the more 'oligopolistic' the industry, the more likely is the requisite *esprit de corps* and mutual trust to develop.²⁰ Again, the longer the individual firms have been established in the industry, and the more 'mature' the oligopolistic 'constellation',²¹ the more effectively is secret price-cutting likely to be outlawed. On the other hand, changes in the ownership of individual firms (e.g. by take-over) or changes in the relevant decision-making personnel in individual firms are likely to disturb adherence to the code of conduct until experience is gained anew and confidence restored. (The same consideration will affect the outlawing or reduction of other forms of competition.) Yet another influence on the development and maintenance of confidence and cohesion within the group may be market-share variability. Changes in individual market shares from any cause whatever may put a strain on the members who for the time being are at a disadvantage. Such members may be provoked into secret price-cutting to make up for their losses. This process of adjustment, which may be tolerated up to a point by the more favourably placed members, can however get out of hand and precipitate more general price-cutting. Thus, a high degree of market-share variability may weaken the self-restraint of members of an oligopoly group. But the way in which it may serve to weaken the cohesion of the group would not be that which is emphasised by Stigler in his theory of oligopoly.

Again, it is at least arguable that the forswearing of secret price competition may be more effective in practice where there is no formal price agreement than where there is one. Firms may be more reckless when they know that formal machinery exists for having consultations and for restoring the price structure if secret price-cutting should get out of hand. Without

the safety-net of such arrangements, the period of unprofitable operations may be longer because the restoration of the price structure would be more difficult: the self-inflicted group punishment is more serious. This prospect may control the temptation to indulge in bouts of competitive individualism more effectively than the formal undertaking of obligations.

IV

An incidental question concerns the mechanism by which a more profitable price level can be achieved after a bout of secret price-cutting has driven prices down towards the competitive level. Violation having been shown not to pay when there are several violators, how does it come to be eliminated? How will prices be restored to a more profitable level (barring a fortuitous exogenous intervention such as an unanticipated increase in demand)?

In practice, oligopoly price wars, which usually include secret price cuts as a major weapon, do not continue for ever, and effective prices are raised, often quite soon. Presumably in practice sellers do communicate to their fellows, either directly or indirectly through the trade press or through customers, their intentions to stop the rot. Moreover, even without such communication (which in some countries would be considered dangerous in the light of anti-cartel legislation), the industry 'leader' – or, in the circumstances, 'saviour' – could indicate his intention to lead the industry into a more profitable state by unilaterally reducing his secret price cuts even though it involved him in losses, the gain by others of his lost business being the way, *à la* Stigler, in which knowledge of his action is communicated. Perhaps he might take this step after he had out-done the other sellers in 'secret' price-cutting so as to bring them into a frame of mind in which they would respond to a lead. Or perhaps, even more drastically, he might do this after he had brought down his open price towards the presumed level of the secret prices, using the device of raising his open price to lead the other sellers to a state of greater prosperity. The start of the process of education towards a future regime of self-discipline is likely to be difficult, although less difficult when there has been an earlier period of profitable restraint. On the

other hand, the process begins at a time when the prospective rewards of self-control must loom large in the minds of all members of the group, who have punished themselves collectively for their individual anti-group behaviour. As Stigler expressed it felicitously in a different context, 'in the multi-dimensional real world there are many ways to teach a lesson, especially when the pupil is eager to learn'.²²

V

There are circumstances, of course, in which one or several oligopolists will choose to engage *openly* in price competition. This may happen, for example, where there is heavy excess capacity in an industry (in spite of Marshall's observation about the disinclination of firms to spoil the market); or where one firm seeks to use an advantage it has over its rivals (for instance, in terms of a materially lower level of costs) to secure a larger share of the market; or where one firm becomes seriously dissatisfied with its share of the market and is prepared to challenge its rivals.²³ Whatever may be the reason for the general breakdown in oligopolistic self-restraint or the flouting of the conventions by a particular firm, price-cutting may be initiated sooner, and probably with less provocation, where there is apparently wide scope for secret price competition than where there is little or none. Not only does the pioneer in a round of secret price-cutting gain the innovator's profits, but also he is likely to feel less inhibited where his deviance is less visible to members of the group. The process of price-cutting is likely to go further and the period of lower profits to last longer. Thus even though price-cutting may be expected to happen in certain circumstances whether or not there is scope for secret operations, its timing, depth and duration are likely to be affected by the presence of the kind of circumstances, analysed so perceptively by Stigler, which *seem* to provide scope for profitable secret price-cutting. For this reason alone members of an oligopoly group have some incentive to devise and follow practices which will limit the scope for secret price competition or, alternatively, will reduce pressures on individual firms likely to induce them to behave individualistically from time to time. And the group will naturally have a general incentive to

remove or reduce temptation: for the presence of some apparent scope for secrecy in price-cutting is an obvious source of weakness.

In the present context, the experience of the cement industry in the United States over the last half-century is of interest in three respects.

There was substantial excess capacity in the cement industry in the inter-war period, and at times considerable secret price-cutting took place. Even before this manufacturers had adopted various practices to protect their wholesale dealers, including the practice of not supplying cement directly to certain consumers such as building contractors. It seems that sales to dealers were less likely to give rise to secret price-cutting than were sales to final users. 'The uncertainty surrounding isolated sales to contractors ominously threatened strict adherence to the basing-point pricing formula' which was in use in the industry.²⁴

The Stiglerian analysis of the scope for secrecy provided by market-share variability can be applied to the situation. According to this analysis, 'collusion is severely limited . . . when the significant buyers constantly change identity. There exist important markets in which the (substantial) buyers do change identity continuously, namely, in the construction industries. The building of a plant or an office building, for example, is an essentially nonrepetitive event, and rivals cannot determine whether the successful bidder has been a price cutter unless there is open bidding to specification'.²⁵ Whereas the dealer's distribution of purchases among rival manufacturers would be subject to a small variation from period to period (except when a particular manufacturer cut prices), the placing of each of the contractor's purchases was largely unpredictable, and the distribution of business among the manufacturers subject to greater variation.

The decision of manufacturers to deal through dealers rather than directly with contractors – even when they continued to canvass the latter for business, with supplies to be arranged through dealers – may conceivably be explained in terms of the greater ease of detecting (inferentially) and hence inhibiting secret price-cutting. But this could have been only part, and probably only a small part, of the explanation. The predominant

reason appears to have been that dealers were more likely than contractors to report to suppliers the secret price cuts offered or made by rivals: 'Numerous manufacturers testified [to an official agency] that a dealer, being friendly with company salesmen, would usually inform them as soon as a rival had quoted secretly below the list, formula price'.²⁶ Whether they intended it or not, the dealers collectively acted as a price-reporting and price-monitoring agency; and this tended to convert 'secret' price cuts into open price cuts, and thus reduced their frequency.

It appears that there was another reason why suppliers were more inclined to make secret price cuts to contractors than to dealers. According to one supplier, 'the contractor is buying cement for a particular job, and when he is through, why, we are through with that obligation; whereas, you sell a dealer at a price less than the published price, you have to continue it or usually lose a customer'.²⁷

The tendency for sales to dealers to be preferred to sales to contractors may seem to conflict with one of the predictions flowing from Stigler's analysis of the scope for secret price-cutting, namely, that 'the fewer (or larger) the buyers, the harder it is to distinguish a large shift in patronage due to price cutting from one due to chance, and hence the higher the probability of price cutting'.²⁸ The dealer handling sales to contractors and other buyers typically would have been a larger buyer of cement than the contractor buying his requirements for a single job. However, whatever were the adverse effects of the greater concentration of purchases from suppliers, they appear to have been overshadowed by the effects of the close personal relations likely to develop at the individual level between the supplier's salesman and the dealer – a circumstance which gave rise to an informal system of communications about price offers and prices which made secret price-cutting less likely. The views expressed by some cement manufacturers such as that quoted at the end of the preceding paragraph do, however, point to the possibility that when sellers engage in some secret price-cutting, because external pressures are sapping at their self-restraint, they may (initially, at any rate) prefer to limit their transgressions, and also their sacrifices, by making their price cuts only in favour of a selection of smaller customers.

Members of an oligopoly group may be expected to adopt or use practices which serve to reduce the pressures on individual members which might otherwise provoke them into individualistic competitive action, to the detriment of the interests of the group as a whole. Such pressures are likely to be especially dangerous where secret price-cutting is possible.

Where suppliers' production facilities are not spread throughout the entire market for their product, and where there are local influences on demand in each sub-market (e.g. each regional market), exogenous changes in demand may cause some suppliers to be enjoying boom or near-boom conditions while others are suffering from a temporary local slump. The pressures on the latter to capture additional business outside their normal sub-markets could be considerable, and, in the absence of special adjustment mechanisms, attempts to gain business might for a time seriously disrupt an orderly and profitable price structure.

The basing-point system of pricing, as Stigler explained in an important article published in 1950,²⁹ makes it possible for a supplier within limits to gain business by extending the geographical range of his sales – without upsetting the agreed or quasi-agreed structure and level of prices. The supplier can achieve this by engaging in freight-absorbing sales made at the delivered prices prevailing in the more distant markets. Thus a supplier who is experiencing a reduction in demand in his normal markets can infiltrate into other sub-markets or increase his sales activities in sub-markets in which he normally only has a limited interest. Provided that demand conditions in the affected markets are favourable, with the normal suppliers having full or satisfactory order books, they would have little or no cause to resist the intrusions of less fortunately placed colleagues; and, moreover, the structure of delivered prices would remain undisturbed. There would be a process of peaceful adjustment to variations in circumstances which might otherwise affect the level of prices over large areas and disturb the profitable harmony prevailing among the oligopolists.

It is difficult to say to what extent the basing-point system had been adopted and used in the American cement industry because of this lubricating effect of the system. This pricing system has other properties which also would have been

attractive.³⁰ However, demand for cement certainly was subject to large geographic fluctuations,³¹ and Loescher concludes that 'the characteristics of the geographic structure of demand . . . encouraged the adoption of the particular system of imperfect collusion involved in the basing-point formula'.³²

Whilst the basing-point system undoubtedly has the advantage of promoting the maintenance of oligopolistic harmony, it should be noted that, at the same time, it widens the scope for secrecy in pricing. There is a reverse side to its role as lubricant. The system legitimises freight absorption, and this means that there is no reason why a particular supplier should be suspected of secret price-cutting when he is making sales in an area in which he does not usually operate. The propriety of freight-absorbing sales provides a cover for secret price-cutting which is absent in, say, an agreement which stipulates ex-works prices.³³

The cement industry in the United States may provide yet a further illustration of an aspect of the present theme. Since it was obliged to abandon the basing-point system of pricing in 1948, there have been many changes in the industry. Among these has been the growth of ready-mix concrete firms as major customers of the manufacturers and the development of vertical integration between some cement manufacturers and some ready-mix firms.³⁴

The questions are raised whether the relative growth in importance of the ready-mix firms would have confronted the manufacturers with renewed problems of competition *inter se*, and whether vertical integration would have contributed to their solution. Loescher, writing in 1959, when the ready-mix firms accounted for about one-third of the consumption of cement, believed that no serious problems would arise. He expressed the opinion that there are

reasons to doubt if sales through large established dealers [in the context, ready-mix firms] would pose as grave a threat to an orderly pricing system as do direct sales to contractors. It is true that during future periods of excess cement capacity the bigger dealers in large metropolitan markets may threaten to shift their patronage in hopes of obtaining price concessions, but it is doubtful if such threats can ever be as

effective as the isolated concession to the large contractor. A cement manufacturer cannot expect to discriminate temporarily in a metropolitan market when he makes a concession to an established dealer: a price concession made to one dealer is bound to persist in this community on all future sales, so long as demand is depressed.

Loescher added that 'it is unlikely that many ready-mix concrete producers could effectively bargain for concessions by threatening to integrate backward' into the manufacture of cement.³⁵

However, vertical integration between cement manufacturer and cement processing may conceivably have the effect, or side-effect, of removing or reducing a source of market-share instability which could react against the interests of manufacturers collectively. Whether and to what extent this has been a consideration in decisions to integrate in the cement industry is a matter of speculation. So many and diverse influences and incentives may affect decisions about vertical integration that it is often difficult to isolate the operative factors in a particular case.³⁶

NOTES

1. I am grateful to R. E. Caves, J. R. Gould, B. Hindley and R. Richardson for helpful suggestions, and exonerate them from blame for the use I have made of them.
2. *The Wealth of Nations* (1776), book 1.
3. See William H. Nicholls, *Price Policies in the Cigarette Industry* (Nashville, 1951), *passim*; see esp. pp. 398-401.
4. Nicholls, *ibid.*, p. 401. The word 'ordinarily' is emphasised because no one would argue that open price competition is ruled out in oligopoly. See § V, below.
5. William Fellner, *Competition Among the Few* (New York, 1949).
6. A stimulating analysis and discussion of the two theories is to be found in Richard A. Posner, 'Oligopoly and the Antitrust Laws: A Suggested Approach', *Stanford Law Review*, xxi (1969), pp. 1562-606.

It is interesting to compare the approach to oligopoly adopted in two recent official reports in the United States. The earlier Neal Report (*Report of the White House Task Force on Antitrust Policy*, July 1968) uses the interdependence theory. The later Stigler Report (*Report of the Task Force on Productivity and Competition*, Feb. 1969) uses the cartel theory. The two reports are reprinted in *Journal of Reprints for Antitrust Law and*

Economics, 1 (1969); the reader is referred to pp. 652-3 and 844-5 of the journal.

There have been numerous attempts to isolate and measure the relation between monopoly and oligopoly (measured by some index of concentration) and economic variables such as prices and, notably, rates of return. The prediction noted in the text, above, namely that prices and profits tend to be higher in highly concentrated industries than in more competitively structured industries, tends to be supported. There are serious problems of measurement and statistical analysis, however; and the various studies differ quite considerably in their findings. I have summarised and discussed the relevant studies (published up to the end of 1969) in my paper 'Do Monopoly and Near-Monopoly Matter? A Survey of Empirical Studies', in *Essays in Honour of Lord Robbins*, ed. B. C. Corry and M. H. Peston (London, 1972). See also Frederic M. Scherer, *Industrial Market Structure and Economic Performance* (Chicago, 1970), *passim*.

7. George J. Stigler, 'A Theory of Oligopoly', *Journal of Political Economy*, LXXII (1964), pp. 44-61; reprinted in Stigler, *The Organization of Industry* (Homewood, Ill., 1968), pp. 39-62. (Page references are to the latter.) See also Ronald I. McKinnon, 'Stigler's Theory of Oligopoly: A Comment', *Journal of Political Economy*, LXXIV (1966), pp. 281-5, where the analysis is extended and modified.
8. Stigler, 'A Theory', p. 40.
9. All the passages quoted in this paragraph are from Stigler, *ibid.*, p. 42.
10. Stigler, *ibid.*, p. 44. Cf. Posner, 'Oligopoly', p. 1573: 'Short of direct knowledge of competitors' transaction prices, the most reliable method of determining whether the competition is cheating is by consulting one's own sales experience.'
11. Thus McKinnon, 'Stigler's Theory', p. 281: 'This statistical variation [in the flow of customers through any given firm] acts as a shield to secret price cutters as non-price-cutting firms have to decide when customer losses exceed what can normally be expected through random variation.' The larger the random variations, the more protective is the shield.

Scherer (*Industrial Market*, p. 208, n. 90) criticises the basis of Stigler's approach, and says that here Stigler's 'ingenuity outruns his sense of realism'. Scherer's main contentions are that 'when market shares change hands, their [i.e. businessmen's] first impulse is to suspect some underlying causation other than chance'; and that 'their first overt reaction' is 'to seek concrete information on the causes of the shift (e.g. by sending salesmen out to pump recently defected customers on the reasons for their defection)'. However, this formulation leaves out of account an important component in Stigler's analysis of what I am calling market-share variability, i.e. the entry of new customers. It also implies that a businessman's *minimum sensible* with respect to changes in sales volume or market share is very small; it seems more realistic to suppose that the *minimum sensible* may vary with, and be positively related (at least up to a point) to, market-share variability. Again, as

Stigler notes, defecting customers often have an interest in not telling the truth: the businessman may learn that search does not pay.

12. McKinnon's paraphrase is: 'Stigler concludes that the amount by which prices can be raised above competitive levels by collective agreement depends directly on the ease of making . . . inferences' about price-cutting. McKinnon, *ibid.*, p. 281.
13. Individual assessments of the extent of undetectable price-cutting might be expected to differ because of differences in the individual circumstances of members, such as size of firm, and in views about the tolerance-levels of non-violators.
14. It is assumed, for simplicity of exposition, that all members are equal in size. The argument is not affected by allowing for members of different size.
15. Stigler's detailed analysis of the detectability of price-cutting proceeds on the basis that there is a single price-cutter. McKinnon says of his own analysis: 'Throughout, it will be assumed that only one rival is price cutting, in order to keep the model as simple as possible.' McKinnon, *ibid.*, p. 282.
16. A further difficulty is avoided in the text discussion. It is not obvious how the violator comes to know that *his* secret price-cutting has been detected. Unless he is told that this is so, he can suspect that he has been found out only by making inferences from his changing sales experience relatively to that of the market as a whole. And even then he could not be sure that his loss of sales was due to the disciplinary price-cutting of the enforcers rather than to the independent cheating of other violators. Realistically, the naming of violators by enforcers would be extremely hazardous in any country with anti-cartel legislation on either the United States or the British pattern. It appears, however, that in McKinnon's analysis the naming of violators is contemplated, because the author develops rules for minimising 'unjustified accusations' of violations. 'Stigler's Theory', p. 282.
17. See Daniel Orr and Paul W. MacAvoy, 'Price Strategies to Promote Cartel Stability', *Economica*, xxxii (1965), pp. 186-97. In § 2 the authors show, by means of a simple model, that the matching of the price cuts of a violator is ineffective as a deterrent and inimical to the interests of the enforcers, save in special circumstances.
18. Orr and MacAvoy, *ibid.*, § 4-6.
19. *Ibid.*, § 3. See also, more generally, Gary S. Becker, *Economic Theory* (New York, 1971), pp. 100-1.
20. See Fellner, *Competition*, pp. 41-50; also G. Warren Nutter, 'Duopoly, Oligopoly, and Emerging Competition', *Southern Economic Journal*, xxv (1964), esp. pp. 351-2. (Neither author is considering, specifically, secret price-cutting.)
21. The terminology is Fellner's: *Competition*, p. 188. The older an industry, the stronger are likely to be the ties between suppliers and customers. This itself will reduce the scope for secret price-cutting. See Edwin Mansfield, 'Entry, Gibrat's Law, Innovation, and the Growth of Firms', *American Economic Review*, LI (1962), pp. 1040-1.

22. Stigler, *The Organization of Industry*, p. 230.
23. Relevant differences between oligopoly and polypoly include the much greater likelihood in the latter that some firms are dissatisfied in this sense, and that material inter-firm differences in costs and in assessments of the market are present. These considerations are independent of the difficulties of establishing group confidence and of enforcing agreements when numbers are large.
24. Samuel M. Loescher, *Imperfect Collusion in the Cement Industry* (Cambridge, Mass., 1959), pp. 129-34. The relevant section of this illuminating book is titled 'Protected Dealer Marketing System: Minimization of Secret Price Cutting'.
25. Stigler, *Organization*, p. 45; and see also pp. 50 *et seq.* Cf. Loescher, *ibid.*, p. 130.
26. Loescher, *ibid.*, p. 130.
27. Quoted in Loescher, *ibid.*, p. 134.
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31. See Stigler, *The Organization of Industry*, p. 158; Loescher, *Imperfect Collusion*, pp. 72-6.
32. Loescher, *ibid.*, p. 76.
33. More generally, Loescher writes: 'However, save in periods of high levels of sales relative to capacity, the very process of freight absorption, *per se*, may prove a very upsetting element'. *Ibid.*, p. 76.
34. When Loescher wrote his book, he was able to report that 'the cement industry is virtually free of vertical integration . . .'. *Ibid.*, p. 56.
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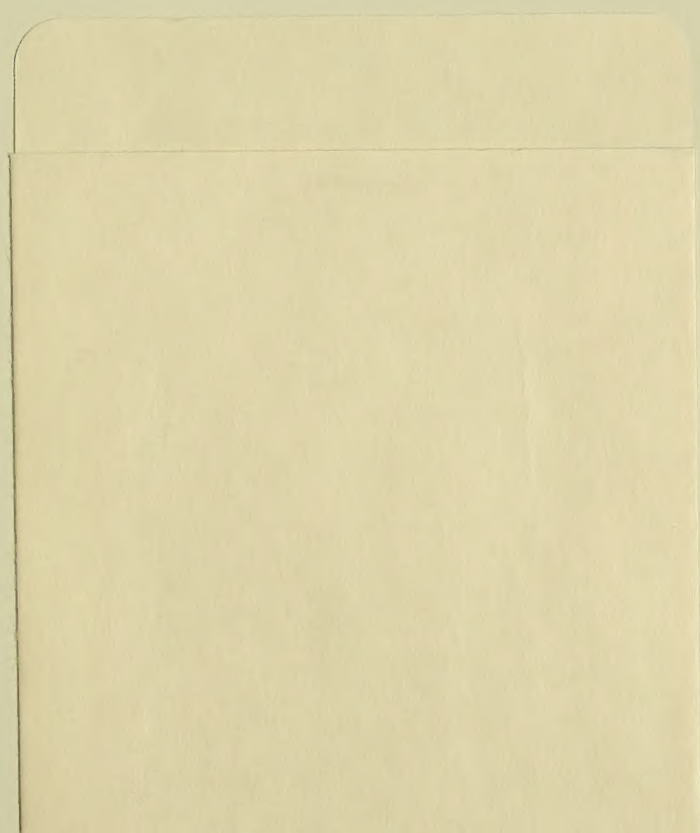
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